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ABSTRACT

Participants in the "Beyond the Looking Glass" Conference established a set of objectives for each of the three teacher education constituencies: practice, policy, and research. The teacher education continuum of preservice, induction, and inservice served as one dimension of a framework for structuring dialogue, discussion, and decision-making activities of the participants during the 3-day conference. The major conference goals were: (1) the identification of the current pressing issues facing teacher education; (2) the structuring of priority recommendations and critical warnings that should be addressed in the immediate future by policymakers, practitioners, and researchers in teacher education; and (3) the facilitation of communication among those who form policy in teacher education, those who educate teachers at institutions of higher learning and elsewhere, and those who conduct research in teacher education. The culminating sessions of the conference focused on and highlighted work currently unfolding at the state level. This publication contains papers commissioned by the conference from scholars in each of the teacher education areas of preservice, induction, and inservice. Within each area, the three perspectives of policy, practice and research were provided by colleagues. (JD)

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BEYOND THE LOOKING GLASS

PAPERS FROM A NATIONAL SYMPOSIUM ON TEACHER EDUCATION POLICIES, PRACTICES & RESEARCH

SHIRLEY M. HORD
SHARON F. O'NEAL
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A NATIONAL SYMPOSIUM HOSTED BY
THE RESEARCH & DEVELOPMENT CENTER FOR TEACHER EDUCATION
SOUTHWEST EDUCATIONAL DEVELOPMENT LABORATORY
WITH THE SUPPORT OF THE NATIONAL INSTITUTE OF EDUCATION

POLICIES, PRACTICES AND RESEARCH IN TEACHER EDUCATION:
BEYOND THE LOOKING GLASS

AUSTIN, TEXAS
OCTOBER 3-5, 1984

A NATIONAL SYMPOSIUM SPONSORED BY
THE RESEARCH & DEVELOPMENT CENTER FOR TEACHER EDUCATION
SOUTHWEST EDUCATIONAL DEVELOPMENT LABORATORY
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EDITED BY
SHIRLEY M. HORD
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The Research & Development Center for Teacher Education
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INTRODUCTION

LOOKING BEYOND THE LOOKING GLASS

It has been easy to criticize teacher education. The proliferation of national commissions and their anticipated critical reports have provided abundant attention and examination of the problems and difficulties that can be identified in teacher education. These national concerns, which include the qualification and preparation of teachers, have increased, sharpened, and become ever more stridently expressed. Policymakers, practitioners, and the media have in turn registered their concerns. Teacher education has indeed been before the looking glass.

There is a significant difference between criticizing present practice and acting to improve future practice. Moving beyond the looking glass toward improved practice was the driving purpose of a major endeavor undertaken by the Research and Development Center for Teacher Education and the Southwest Educational Development Laboratory, both funded by the National Institute of Education. The two institutions, which have an established working relationship, collaborated closely in arranging a national forum to address the concerns expressed by the profession and the public. The major stakeholders in teacher education -- practitioners, policymakers, and researchers -- came to this national symposium to explore the improvement of the preservice, induction, and inservice education of teachers. The symposium provided the opportunity for these participants to address important objectives established for the forum.

Major Objectives of Beyond The Looking Glass Conference

In order to provide structure and guidance for accomplishing the goals of the symposium, a set of objectives was established for each of the three teacher education constituencies. These objectives follow.

With Regard to Practice

What institutions are presently modeling exemplary programs in teacher education across the professional continuum?

What are alternatives to our present ways of training teachers and other school personnel?

What role do school districts play in attracting and maintaining a quality work force?

In what ways should teacher education practice be improved during the next several years?

With Regard to Policy

What are the origins of teacher education policy development?

How have these policies impacted the quality of teacher education and the quality of teachers?

Should we examine the goals of these policies and mandates in terms of cost? (i.e., If we focus on raising test scores in reading and math, do we do so at the expense of other areas of a child's education?)

What teacher education policies should we strive to establish during the next several years?

With Regard to Research

What do we know about how a person learns to teach at different times in his or her career?

What do we need to learn about the processes and procedures that help a person learn to teach with ever-increasing success?

What kinds of research should/could inform policy development over the next several years?

Critical Warnings

What are the serious hazards to the improvement of teacher education practice over the rest of this decade?

What are the serious hazards to policy development in teacher education over the rest of the decade?

What are the serious hazards to developing the needed research base for the improvement of teacher education over the rest of the decade?

Structure of the Conference

The teacher education continuum of preservice, induction, and inservice served as one dimension of a framework for structuring the dialogue, discussions, and decision-making activities of the participants during the three-day conference. While the teacher education continuum anchored the framework, the juxtaposed dimensions of policy, practice, and research perspectives completed the three-by-three matrix. A national planning committee (see Appendix A) collaborated in the development of the conference framework and in the identification of prominent policymakers, practitioners, and researchers who would be responsible for developing and delivering papers for each of the matrix cells.

Conference Matrix

Policy			
Practice			
Research			
	Preservice	Induction	Inservice

Not only did paper preparers have an obligation to the conference, but all participants were provided with the responsibility to contribute. The first opportunity was in the preconference identification of major issues in teacher education. All participants were asked to nominate issues, and these were summarized.

Preconference Identification of Major Issues

The issues identified by participants were analyzed and synthesized, and then organized according to the perspectives of the three teacher education stakeholders. A summary of the issues follows.

Research

Most participants were concerned with research questions that had been asked in the past, with research questions that should be asked in the future, and with the application of research findings in teacher education classrooms. At the same time, many expressed concern over the confusion between research on teaching and research on teacher education.

In general, the questions can be summarized as follows:

1. On a national scale, there are few reliable data to describe teacher education programs, students, and faculty. How should we obtain this information so that we make wise and reasoned decisions regarding the training of teachers?
2. Do we have empirical evidence that individuals with courses in pedagogy are better teachers than those with only a liberal arts background? (or vice versa?)
3. What do we know about teacher educators? How do we shape both the content and process of teacher training programs?
4. Many people (including policymakers, researchers, and practitioners) fail to recognize that research on teaching is not research on teacher education. How do we achieve clarity on that point among all three constituent groups?

Policy

Most participants were concerned with improving the reputation of programs of teacher education as well as of the teaching profession in general. Questions also emerged regarding who should assume the responsibility of assuring quality teachers for our children. Finally, many were concerned with the dichotomy between training reflective, thinking teachers and policy mandates that attempt to control many if not all teacher functions.

In general, the questions can be summarized as follows:

1. How can the image of teacher education programs, teacher education candidates, teacher educators, and teachers be changed?

2. Who is best qualified to train our teachers? The colleges and universities? Local districts?
3. How much control should local districts and state departments have over curricular and pedagogical decisions? Does too much control take away a teacher's ability to think, to be reflective, and to make decisions on his or her own?

Practice

Most participants were concerned with what should be included in preservice teacher education and inservice programs and with how those programs should be carried out. Many also felt a need to examine the content and processes involved in training teacher educators.

In general, the questions can be summarized as follows:

1. Should the primary emphasis of teacher education programs be on subject matter or on methodology?
2. How is the best teacher education program carried out? With the cooperation of other university disciplines? With more cooperative work with public schools? Through teacher agencies?
3. To what degree and in what ways can we best train teacher educators? What should be included in their training? What is the feasibility of training teacher educators?

New Visions of Teacher Education

We do not hold the premise that all has gone wrong with teacher education. Not at all. A quick appraisal of current practices included in this volume will attest to the fine success of many teacher education practices. These should be celebrated. However, we do not rest on these successes, nor should our critics permit us to do so. There is much in teacher education that requires revision, remediation, and reform. In this conference, it was made clear that business as usual is not an option; maintaining the status quo is not acceptable. The task given to the Looking Glass Conference presenters and participants alike was to remain mindful of the practical realities but to move toward a new vision.

To execute this charge, we commissioned eminent scholars and statesmen to prepare stimulus papers in each of the teacher education areas of preservice, induction, and inservice. Within each area, the three perspectives of policy, practice, and res

contains those papers. Paper presentations were followed by the interactions of all conference attendees, who were arranged in small working groups for deliberation and discussion purposes. These groups were engaged in fulfilling the major conference goals:

1) the identification of the current pressing issues facing teacher education;
2) the structuring of priority recommendations and critical warnings that should be addressed in the immediate future by policymakers, practitioners, and researchers in teacher education; and
3) the facilitation of communication among those who form policy in teacher education, those who educate teachers at institutions of higher learning and elsewhere, and those who conduct research in teacher education.

A synthesis of the conference work groups' recommendations regarding preservice, induction, and inservice is available in a separate publication, Beyond the Looking Glass: Recommendations and Critical Warnings for Policies, Practices, and Research in Teacher Education.

The culminating sessions of the conference focused on and highlighted work currently unfolding at the state level. In order to illustrate the interactions of policy, research, and practice in state policy mandates and program development, we invited three representatives from each of four states to present their stories through the perspectives of policymaker, researcher, and practitioner.

We are grateful for the interactive participation and contributions of all these individuals attending the conference. We particularly appreciate the special role taken by the paper presenters whose ideas and insights are contained in this volume.

In concluding, we recognize the special contributions made by a small group of conference rapporteurs (see Appendix B), who sensitively monitored the thinking and reactions of all participants, collected observations, and recorded emerging themes. From this data base, the rapporteurs provided a daily report of feedback to the conference at large (See Hall, G. E., "Beyond the Looking Glass: Policies, Practices, and Research in Teacher Education," Proceedings of a national conference, Journal of Teacher Education, Vol. 36, No. 1, January/February, 1985), which was meeting in Austin concurrently with the conference.

All of these conference efforts were directed at bringing together individuals who are seeking issues and answers in teacher education. The interactions among those concerned with teacher education resulted in collegially generated recommendations for research, practice, and policy decisions about the future of preservice, induction, and inservice teacher education. We hope, as Manuel J. Justiz, Director of the National Institute of Education advocated in his opening remarks to the conference, that there will be continuing dialogue between those who form policy in teacher education, those who conduct research in teacher education, and those who educate teachers in institutions of higher education, in school districts, and in regional centers.

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OPENING REMARKS

WE CAN MAKE A DIFFERENCE

Manuel J. Justiz
Director, National Institute of Education

The national conference, "Policies, Practices, and Research in Teacher Education: Beyond the Looking Glass," offered an important opportunity to bring together those who form policy in teacher education; those who educate teachers at institutions of higher education, in school districts, and in regional centers; and those who conduct research in teacher education. It is very important that these different actors dialogue with one another about the critical issues facing teacher education and develop shared decisions and plans of action for the profession. As the sample of papers presented in this publication illustrates, the conference was thoughtfully conceived and carefully organized. It was well attended, and paper presenters and conference participants alike dealt with many important issues.

Clearly, the strength of our nation depends on a high-quality education system. And the strength of a high-quality education system rests with high-quality teachers. After students, our teachers are the most important people in our school systems. They're on the firing line every day. Researchers can determine what teaching techniques work best, administrators can organize the proper climate for good teaching, and legislators can try to provide the monetary support for quality education. But in the end, what counts is how well that teacher in a given classroom does his or her job.

Our teachers carry the heaviest responsibility, the greatest burden for insuring the success of our schools. We must have good teachers if we expect to restore excellence to American education. In order to have good teachers, we must provide good teacher training, and we must attract the best and the brightest into the profession.

The National Commission on Excellence in Education declared last year that teacher preparation programs need substantial improvement, that the professional working life of teachers is on the whole unacceptable, and that not enough academically qualified students are being recruited into teaching. For these reasons, teacher education has become a critical national issue. As a result, various aspects of teacher education are being included in the missions of three of the new NIE research centers. Teacher education will consume fully one-fourth of the work of the nationwide center network when the system is established in late 1985. Teacher education improvement is one of the top three priorities at the Institute this year.

Teacher education has been a significant part of the Institute's work in recent years as well. For example the Research and Development Center for Teacher Education at The University of Texas has performed some excellent work in this field. As an example of this work, the Research on Classroom Learning and Teaching Program at the Center conducted a series of studies on classroom management and organization. The results of the studies were featured in a new monthly publication from NIE called Research in Brief. Copies were sent to thousands of educators across the country. This mailing created requests for even more information about the study findings. Through such cooperative efforts in dissemination, it is possible to more quickly get the results of research to practitioners.

In addition to projects like this, all constituencies must collaborate to help shape policy, practice, and research. An example of this cooperation occurred at the creation of a new regional educational laboratory, the North Central Regional Educational Laboratory, which is currently based in the Chicago area. Its purpose will be to help improve education in the Midwest. The group organizing the lab was composed of a virtual "who's who" in education in the Midwest. It included the education deans of the Big Ten Conference universities, the dean of the College of Education at the University of Chicago, the chief state school officers of the region, and representatives of the land grant colleges and universities of that section of the country.

Cooperation like this is vital to educational improvement. That's why I was really excited about the Looking Glass conference. It was a rare opportunity that brought together many of the key people who can change our schools and improve education. They are the stakeholders, the people who make things happen. Policy makers, teacher educators, and researchers like those attending the conference can play major roles in nurturing a renaissance in education, the likes of which this country has not seen in more than a quarter of a century.

The Looking Glass conference was the kind of activity that served to facilitate dialogue, planning, and action. Both the NIE-supported Center for Teacher Education and the Southwest Educational Development Laboratory in Austin recognize the importance of teacher education. They have a history of working together; their recent collaboration for the conference brought representatives of the various education constituencies together so that they could search for the means to improve teacher training.

Among the recommendations explored were those made by the Commission on Excellence regarding teaching. Included among those is the critical need to restore excellence in teaching--to require that persons preparing to teach meet high educational standards, demonstrate an aptitude for teaching, and demonstrate competence in an academic discipline.

The matter of making salaries for the teaching profession professionally competitive, market-sensitive, and performance based was discussed. Related was an examination of how salary, promotion, tenure, and retention decisions can be tied to an effective evaluation system that includes peer review so that superior teachers can be rewarded, average ones encouraged, and poor ones either improved or terminated.

The shortage of mathematics and science teachers was highlighted also. This problem demands immediate attention and might be remedied by attracting qualified individuals, including recent graduates with mathematics and science degrees and graduate students and retired scientists who could, with appropriate preparation, begin teaching immediately. Incentives such as grants and loans that could be made available to attract outstanding students to the teaching profession, particularly in those areas of critical shortages, were identified as well.

There is no finer goal, no greater reward than working to improve the conditions of our society and the lives of its members. And that's what the conference and its participants were about. As the papers in this publication demonstrate, we can put together policy ideas, research findings, and innovative practices that will ensure the future of teacher education and schooling. Together we will make a difference.

CONFERENCE KEYNOTE ADDRESSES

CONFERENCE KEYNOTE ADDRESSES

Currently, the effectiveness and quality of teacher education programs are being seriously questioned by the general public. Policymakers, researchers, and teacher educators are therefore actively responding. At the state level, in particular, policymakers are issuing mandates that impact the preservice, induction, and inservice training of teachers. Researchers are doubling their efforts to examine and understand promising changes in teacher education. In addition, teacher educators are structuring new programs and procedures to improve practice.

Many issues have emerged as a result of this flurry of activity in teacher education. For example: (1) What should teacher education look like across the professional continuum?, (2) What do we already know about teacher education and how might that inform policy development at the federal, state, and local level? and (3) What is it we need to know about the education and training of teachers if improvement in the field is to become a reality?

Representatives from institutions of higher education and the public schools and those involved in policy development and implementation share their insights to help shed new light on and further our understanding of these issues.

POLICY
Dean C. Corrigan, Dean
College of Education, Texas A&M University

RESEARCH
Gary D. Fenstermacher, Director
Northern Virginia Graduate Center

PRACTICE
Billy R. Reagan, General Superintendent
Houston Independent School District

In his keynote address, "Policy Development and Implementation as Related to Teacher Education," Corrigan explicates the thesis: education is politics. He discusses the role of politics in policy development and its influence on educational change.

Fenstermacher, in his address, "What Counts as Research on Teacher Education?" proposes a strict definition of research on teacher education as research that examines the instructional aspects of preparing teachers or of enhancing the skill, understanding, or character of experienced teachers. This definition allows research on teacher education to be treated as a subcategory of research on teaching, with its constructs and methodology.

"From Boardrooms to Blackboards: How Can Business and Industry Support Technology in the Public Schools?" Reagan answers this question in his address by reviewing world economic changes and their impact on the American worker. How technology interfaces with this situation and how schools, business, and industry are addressing changing conditions are part of Reagan's answer.

POLICY DEVELOPMENT AND IMPLEMENTATION AS RELATED TO TEACHER EDUCATION

Dean C. Corrigan
Texas A&M University

Schools and colleges of education have not made fundamental changes in the policies affecting the roles, rewards, and preparation of teachers because the teaching profession has not had the necessary support from public officials who make the key decisions affecting education at all levels. Up to now, the typical policymakers' response to the crisis in teaching has been largely symbolic, emphasizing regulatory measures that will not solve the problems facing education in America. It is a hoax for legislators to mandate new curriculum requirements, stricter certification laws, and preservice teacher competency tests without providing the necessary incentives to attract and keep the kind of teacher-scholars who can implement the new requirements and pass the new tests. With all the talk about "a nation at risk," education still appears to be more important in our political campaigns than in our appropriations.

The lesson that emerges from my last 10 months of serving on the Select Committee on Public Education in Texas is that the current situation exists for political, not educational reasons. When we discuss policy development, we must proceed from the premise that changing schools and teacher education involves political, economic, and social reforms as well as educational reforms. Our strategies must connect with those dimensions of society and be powerful enough to have an impact on them, or policymaking is a waste of time. Education is not just influenced by politics, it _is_ politics.

Future of Teaching and Teacher Education

The future of teacher education in colleges is inextricably interwoven with the future of teaching in the schools. Teacher education will improve in direct relationship to improvement of the status of teachers in society.

If we reform the school, create the conditions for professional practice, pay teachers a decent salary commensurate with training, and develop other career-long incentives that will attract and retain the kind of teacher-scholars needed, we will be able to improve teacher education. *Improve the status of teachers, and we* will change the funding formulas for teacher education. Use teacher education as an instrument to reform the school setting so that teachers are treated as professional decision makers instead of executors of someone else's orders, and we will get the "necessary revolution" we need in teacher education.

It is my contention that every aspect of education, including teacher education, is affected by the public's view of the importance of teaching.

Lack of Change in the Past

The lack of change in teacher education during the last 20 years has not been because we have failed to conceptualize teacher education adequately. On the contrary, we have not implemented the conceptual bases and designs for improved teacher education that have been in existence for over 20 years. For example, in 1968, Bob Bush proposed a 5-year program and a career design for teacher education that is not much different from the 5-year models being proposed today. His proposal was made during a year called the year of the nonconference. In 1968, I wrote a paper for the American Association of Colleges for Teacher Education (AACTE) School for Executives that responded to the Bush model. It was called What Teacher Education Could and Should be Doing in the Next Twenty Years (Corrigan, 1969). You are all familiar with other documents containing proposals that have gone unimplemented: the Conant Report (Conant, 1963); the 49 million dollar Ford Foundation Master of Arts in Teaching effort (Magat, 1972); all 14 cycles of the Teacher Corps (Smith, n.d.); the Bicentennial Commission Report, Educating a Profession (Howsam, Corrigan, Denemark, & Nash, 1976); the AACTE's Profiles of Excellence (1982); the National Education Association's action plan for excellence in the schools (1982); The Task Force on Extended Programs (Scannell, 1982); the land grant deans' Task Force on Quality Standards for Extended Programs (Howsam, 1981); Gideonse's call for The Necessary Revolution in Teacher Education (Gideonse, 1982); and Bunnie Smith's 50 years of insightful concepts and designs (Smith, 1980).

Those of us who work in the training arm of this profession must accept a very vivid truth: if the content of teacher education cannot be used in the work place of the teacher, then colleges of education will continue to be viewed as out of touch and obsolete. No amount of change in the teacher education curriculum will change that fact. Therefore, it is critical that new directions in teacher education be embedded in and consonant with equally innovative directions in *school renewal. Major reform in one cannot occur without concurrent major reform* in the other.

Schools will not improve by merely changing programs in colleges and universities. If we prepare teachers with the latest knowledge and skill and then place them in work situations where they cannot use this knowledge and skill, we will simply produce more candidates for the mental health institutions. If you read Goodlad's (1984) A Place Called School, that is the point he makes. Unless we can change the setting in which teachers work, giving them new techniques to individualize instruction will not do any good at all. In fact, they will end up on the teacher drop-out lists faster because they know what could be done to enhance the intellectual development of children if the conditions existed in which they could use their knowledge and skill in teaching and learning.

Teachers are leaving the profession not only because they and their families cannot survive on their salaries but because the conditions to practice their profession do not exist widely. The stress caused by poor conditions for professional practice inherent in the nature of the school setting itself and the low value placed on the role of the teacher in America are equally significant reasons for the demise of teaching and ultimately, of teacher education.

It hurts me to say this, but up to now, college educators have done little to help improve the conditions in which school teachers work or the rewards teachers receive for their labors. In fact, the reverse is more than likely true. Some professors have made a living by criticizing the schools. College professors generally have not seen themselves in a common enterprise with teachers and they certainly have not been active advocates for them in legislative halls. College professors are more likely to try to reap the rewards of the system and to satisfy the promotion and tenure criteria of the people in arts and sciences colleges than to work to improve the curriculum out in the schools.

The Current Situation

The current situation has to change and it is going to change. One of the reasons is that the design of teacher education today is directly linked to the design, reconceptualization, and restructuring of the school. This kind of reconceptualization is already taking place in Georgia, Florida, Tennessee, Utah, North Carolina, and here in Texas with the new career ladder plan in House Bill 72.

Many members of the Texas Legislature originally proposed the career ladder plan as if it were a pay scale only. It is not just a pay scale. Because some of the legislators do not fully understand this, they don't realize why teachers are so disgruntled. By approving the career ladder plan, legislators disenfranchised the experienced teachers who are already certified.

The Texas version of the career ladder is a certification system as well as a pay system. As teachers move from one level of the ladder to the next, they must get a different type of certification. Indeed the terminology "certification" is used in the legislation. The career ladder, therefore, is a new certification plan. Current teachers have to have certain kinds of training as well as a performance appraisal to be placed at different steps. For the first year, everyone is placed on levels one or two, regardless of the number of years of experience. That action is equivalent to saying to all professors that there is going to be a new system, and all of them will now become lecturers or assistant professors.

The Texas career ladder system also calls for a dual-track training plan. A new training concept in the Texas plan is advanced academic training in the local district, which can be considered as an alternative to the career ladder training plan for credit hours in a university degree program. For every 135 hours of state approved inservice education, a teacher can obtain the equivalent of one university course on the career ladder. Thus, the Texas career ladder is restructuring the very nature of teacher education.

Any college of education not actively involved in helping to design career ladder plans is not involved in redesigning teacher education today. Colleges of education cannot go off on their own and design programs unrelated to the career ladder system if the schools are using such systems for salary determination, promotion, certification, and training. For example, the systems for evaluation in the Texas, Florida, and Georgia plans make the first year of teaching a probationary period and require a performance appraisal prior to licensing. If all schools in the state are mandated to use the same system, it makes sense for the training institutions to use the same performance appraisal in evaluating student teachers in their preservice programs. This practice is a good way to ensure that graduates meet the performance requirements expected by the schools in the first probationary year. The Florida Beginning Teacher model and the Georgia plan dovetail with school and college evaluations. In the future, I am sure that Texas program approval processes for certification and college accreditation will require that the student teaching appraisal systems employed in teacher training institutions be designed with school appraisal systems in mind.

In these and many other ways, the professional lives of teacher educators in colleges today are linked together with colleagues in other parts of the teaching profession--in the preschool, in the kindergarten, in the first grade, in the junior high, and in the high school. In view of this fact, we had better start acting as if we are a single profession.

Crisis of Quality and the Teacher Shortage

The biggest challenge we face as a profession in Texas and elsewhere is how to improve the quality of teachers during a time of critical teacher shortage. A recent Rand Study (Darling-Hammond, 1984) indicates that the shortage may not have reached the same "crisis" proportions in other sections of the country as in the Southwest, but it very soon will. The crisis in Texas is real. People simply do not recognize how serious the crisis is in this state. Commissioner of Education Bynum, just prior to his recent resignation, announced that 1 out of every 11 graduates who walked across the stage last June in all of Texas' 4-year colleges would have to go into teaching to meet Texas' shortage of teachers in the future. According to the Texas Research League (1984), Texas will need over 90,000 new teachers by the year 2000.

Currently, 8,500 teachers a year are produced in the 63 Texas colleges that prepare teachers. There is an attrition rate of 15,000, which is about 6½% of the approximately 240,000 teachers in the state's current teaching force. Out of the 8,500 newly qualified to teach, about 30% (and this percentage is true nationally) do not go into teaching. If these 30% are subtracted from the 8,500, the state is left with a pool of approximately 6,000 newly prepared teachers. After the class of 1984, if we subtract the approximately 30% who are failing the new state proficiency test in mathematics and English that is required of all teacher candidates prior to entering a teacher education program, Texas will have fewer than 5,000 new teachers fully prepared and ready to serve. (Yes, you heard it right, about 30% of the college students who took the first administration of the pre-entry basic skills exam mandated in Senate Bill 50 failed the exam.)

When we analyze all of the aforementioned data, the bad news is that three times as many people are leaving the profession as are completing teacher education and intending to enter the profession. The State of Texas now has a 10,000 teacher shortfall between those newly qualified who want to teach and those retiring or calling it quits. The really bad news is that this situation could get even worse due to other factors unique to Texas.

Texas is experiencing the largest increase in the live birth rate in the state's history. I do not have the data for last year, but two years ago there were 20,000 more live births in this state than the year before. That translates into a need for 1,000 new first-grade teachers in 1990, 1,000 new second-grade teachers in 1991, 1,000 new third-grade teachers in 1992, and so on. If the live birth rate continues to increase annually, we are going to experience that multiplier effect every year. Also, some of the new mandates in House Bill 72 will require more teachers, for example, (1) reduced class sizes in the first four grades (no more than 22 per class, (2) all-day kindergarten programs, (3) preschool programs for 4-year-olds in areas serving the disadvantaged, and (4) one additional year of math for all high school students. The last requirement alone will triple the need for high school mathematics teachers. Needless to say, we have the makings of a real educational disaster unless we mount a comprehensive program to produce more new teachers and change the delivery system to use talented teachers more effectively and to use the new technology to restructure learning environments.

The extent of the crisis is already visible in the number of emergency permits being issued. The Texas Education Agency issued 5,890 emergency permits in 1981-82, a number just about equal to the number of newly qualified graduates available to enter teaching. The schools hired 1,233 mathematics and science teachers in 1982; 508 of these teachers were hired on emergency permits. More than half of the individuals hired to teach mathematics were unlicensed to teach that subject. The number of teachers being assigned to teach out of their field may be an even greater scandal, but it is difficult to get hard data on this phenomenon.

Information on the decline in the numbers of minority teachers is available, however, and it is appalling. In her monograph, Elaine Witty (1982) reports what is happening to Black teachers in America. New Black teachers are almost nonexistent. The number of Hispanic teachers is also on the decline. In Texas, 37% of the school population is Hispanic. While Hispanic teachers and Black teachers are less and less available, enrollments of students from these ethnic groups are increasing rapidly, not just in Texas but nationally. An indifferent attitude about this aspect of the teacher crisis will not suffice. Programs specifically designed to attract minorities into teaching must be supported now.

Incentives Needed

The bottom line is that just passing new requirements and standards without providing incentives to attract and keep high-quality teacher candidates will only exacerbate the problem. Stanley Elam's (1981) article in Phi Delta Kappan on the Arizona experience is instructive. Arizona excluded about 8% of aspiring education students from teacher education programs as a result of the state competency test. Four years later, a study found that the state was issuing 12% more emergency permits.

Unless we can legislate incentives along with the new requirements, the problem will get worse. A beginning in the right direction began in Texas when the Special Session passed House Bill 72. A series of incentives is included in the bill. A $4,000 salary increase in the state foundation base, from $11,110 to $15,200, is provided along with the new career ladder plan. If we can work out the bugs and create a bonus incentive system rather than a merit pay plan, the idea of a career ladder is a good one. It will keep outstanding teachers in the classroom by paying them enough so that they do not have to become principals in order to make a decent wage. The bill also includes a scholar loan program for outstanding high school graduates who choose teaching and a program to provide stipends and scholarships to upgrade career teachers. A research and development component supports new approaches to staffing schools, research on new curriculum approaches, and innovative uses of new technology. The bill provides an opportunity for all colleges that prepare teachers to operate a lab school in a neighboring district rather than on campus. Furthermore, it reduces class sizes at some levels. These improvements of the conditions of professional practice are a good beginning.

We could implement many more incentives tomorrow, but first we must convince public officials that for every new requirement, for every new quality assurance, there will have to be new incentives. One will not work without the other.

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WHAT COUNTS AS RESEARCH ON TEACHER EDUCATION?

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As youngsters, we played a game involving two characters, Pete and Repeat. "Pete and Repeat are crossing a bridge," we would say to a friend. "Pete falls off. Who is left?" The friend answered "Repeat," and we launched into the story again. Of course even a four-year old caught on to the gimmick rather soon, but we enjoyed the game enough to keep at it until one child was exhausted or an adult pleaded for peace and quiet.

Suppose that what are called "research on teaching" and "research on teacher education" were crossing a bridge, and one fell off. Which one would be left? How do you know? At first blush, the two seem so alike that it is hard to tell them apart. It is because of this confusion in identity that some clear distinctions are in order. As the differences become clear, it will be possible to expand on the notion of research on teacher education in ways that may lead to doing more of it and perhaps even doing it a bit better.

First, a definition of teacher education. It need not be precise, just clear enough to mark off the territory so that we can recognize any serious encroachment. Teacher education is the activity of preparing persons for the tasks of teaching in formal instructional settings or of enhancing the skill, understanding, or character of those already engaged in teaching. (Note that this loose definition covers both preservice and inservice education.) Given this definition, teacher education is clearly a species of teaching. It thus seems reasonable to argue that research on teaching is a generic category, and that research on teacher education is a subset of that category.

I believe this view of the relation between research on teaching and research on teacher education is correct. However, most of what presently falls under the heading of research on teaching encompasses the study of elementary and, to a lesser extent, secondary school settings (see Gage, 1978, 1984; Shavelson & Stern, 1981, and Green, 1983, for overviews of several lines of inquiry in research on teaching). As such, it may seem strange to some to claim that research on teacher education is a subset of research on teaching.

The oddity of this view grows even greater when one looks at what is now loosely grouped under the heading of research on teacher education (for a general overview of this research, see Koehler, this volume). Although some of this research is focused on examination and analysis of the teaching situation wherein teacher educators are instructing new or experienced teachers, most of it is not. Rather, many of these studies consist of surveys, program documentations, and evaluations. Of the work reviewed by Koehler, only a small portion of the studies that do focus on specific instructional situations are guided by any sort of strict methodological criteria such as may be found in the disciplines of psychology, sociology, anthropology, or history.

Given so heterogeneous a collection of studies bearing on the general topic of teacher education, is it reasonable to claim that research on teacher education is a subset of research on teaching? One problem with this claim is that research on teacher education is not centered on instruction, as is most of the research on teaching. Furthermore, this research does not exhibit a strong regard for the methodological traditions and constraints of the academic disciplines. Thus, the more accurate claim seems to be that research on teacher education is a catchall category for any systematic inquiry that pertains directly or indirectly to the activity of educating teachers. On the face of it, there is nothing wrong with so broad a definitional range. Yet terms that apply to everything in general are not much good for picking out anything in particular. If the range were narrowed, it might be possible to think more powerfully about research on teacher education.

Consider a move common in analytic philosophy, a distinction between a strong or strict sense of a term and a weak or loose sense. In its strong sense, research on teacher education pertains only to research that examines the instructional aspects of preparing teachers or of enhancing the skill, understanding, or character of experienced teachers. In its weak sense, the phrase connotes all aspects of the teacher education enterprise. Thus, research that attempts to determine whether it is better for a community or a state to permit secondary teachers to earn multiple subject-field certifications would fall under the weak sense of the phrase. If this research topic were altered to examine whether secondary teachers holding credentials in two or more subjects are as effective as holders of a single subject-field credential, then the topic would qualify as research on teaching in the strong sense.

It would be an error to impute some sort of value judgment to the notions of a strong and a weak sense for research on teacher education. These adjectives apply to the nature of the boundaries for the meaning of the term at issue. In the strong sense, the definitional boundaries are clear, tight, and restrictive. In the weak sense, the boundaries are fuzzy, loose, and permissive. To do research on teacher education in the weak sense is not somehow less noble or fulfilling. The persons who do this research are not, eo ipso, less deserving of, say, tenure or promotion. The point of making the distinction is not to demean or elevate certain aspects of research on teacher education. It is to see if we can get clear about the relationship of research on teacher education to research on teaching.

By making a distinction between the strong and weak sense, it is then possible to locate the strong sense of research on teacher education within the corpus of research on teaching. Whether this research is done well, conceptually and methodologically, is another question. The study of the instructional situation that obtains between a teacher educator and a teacher is a teaching study. It differs from what ordinarily goes under the heading research on teaching by the age (maturity, capacity, and ability) of the students and the content that is the occasion for the relationship between the teacher and the student. The content of elementary and secondary school teaching is usually some subject field (mathematics, history, art) or some skill area (word processing, drafting, dietetics), while the content of teacher education is teaching itself.

Content is a critical consideration, for it pertains to the much ballyhooed knowledge base that now is believed to characterize teacher education (see Berliner, 1984; and Smith, 1983). The study of teaching over the last 12 to 15 years has indeed provided a great deal of knowledge about teaching and other classroom activities. The findings, concepts, and perspectives of this research constitute a valued part of the curriculum for teacher education students. This "mother lode" of research results, however, should be handled with care. Caution is required if teacher educators are to avoid teaching this content in precisely the way they tell their students not to teach--that is, to toss it to their students as if it were something to be consumed and stored, with students then occasionally demonstrating that not only is it still in storage, but it has not decayed or evolved into something else. (This caution is obviously different from the one usually heard about using research, to wit: the findings should be applied carefully as there are always problems with the validity and generalizability of research. This latter caution is often appropriate, though it is too often used by those who disagree with the findings or those who simply do not want to work through the research to impugn the entire corpus.)

What I have tried to do thus far is show how research on teacher education might be regarded as a subset of research on teaching. If such a case is to be made at all, the first step is to narrow the range of application of the term research on teacher education. This cannot be done ex cathedra, else one would be legislating the meaning of a notion in common use. Hence, the need for a distinction between the weak and the strong sense of the phrase. In the strong sense, research on teacher education is the systematic study of the instructional situation that obtains between the teacher educator and the teacher or teacher-to-be. The strong sense restricts the range of application to the actual activities of teaching persons how to teach. This sense specifically excludes activities that are clearly part of the enterprise of teacher education and outside of the instructional situation. These latter phenomena are grouped under the weaker sense of research on teacher education.

Once this distinction is fixed, it is then possible to examine the bearing of what typically is called research on teaching on the strong sense of research on teacher education. What typically goes by the name research on teaching consists, among other things, of findings and implications derived from the study of elementary and secondary school students. These findings and implications may properly be incorporated as content in programs that prepare or retrain teachers. A teacher education researcher who examines the ways this content is brought into the curriculum and taught to students is engaged in research on teaching in the strong sense.

The research on teaching literature also functions as a guide for doing similar kinds of research in the setting of teacher education. That is, teacher education researchers may examine such constructs as teacher effectiveness, discourse structures, ecological interactions, or any of a number of other paradigms used in the study of teaching (see Shulman, in press, for a description and discussion of the various programs for research on teaching). On this view, extant research on teaching supplies concepts, designs, and methods for the development of a research program in teacher education. Once underway, this research becomes a part of the general program of research on teaching.

If the concepts, methods, and designs of the present body of research on teaching are used to develop programs of research in teacher education, the same methodological pluralism that presently characterizes research on teaching should characterize research on teacher education. Methodological pluralism in research on teaching has greatly enhanced what Gage (1978) calls the "yield" of research on teaching (though Gage himself has not been a proponent of methodological pluralism). The variety of methods and designs in use has enhanced our perspective on classroom phenomena as well as our ability to apply the findings and implications to the practical circumstances of teaching. Multiple methods have also been heuristically beneficial, suggesting new ways to look at, comprehend, and appraise the instructional situation. These same benefits are likely to be gained by research on teacher education if methodological pluralism remains a guiding principle.

Suppose that research on teacher education is indeed understood as a species of research on teaching. Then, to what ends is it undertaken? What is the point of doing it? The usual answer is that research adds to our knowledge and understanding of events in the world, and thus is a good thing to do because knowledge and understanding are good things to have. This answer remains a proper reply, though it misses a critical aspect of the nature of education. To educate a fellow human being is to engage in a practical activity. The kind of assistance required in education is assistance that enables us to get better at doing it. Research, in contrast, helps us to understand, but that is not the same. For example, I may have a very good understanding of motivation yet have little success in motivating anyone. Motivating people is a practical activity. It may be enhanced by knowledge and understanding gained from research, though not automatically so. Research is the activity of producing or generating knowledge, while practical activity involves the use and application of knowledge.

The use or application of knowledge requires a different set of understandings and skills from the production or generation of knowledge. The teacher education researcher who studies the instructional situation of teacher and teacher educator by employing the methods, concepts, or designs of research on teaching is engaged in the production of knowledge. Once valid and reliable knowledge is obtained from the research effort, the application and use of such knowledge must still be determined.

This last point raises yet another possible perspective on teacher education research. The teacher education researcher may be one who studies the application and use of knowledge obtained by, for example, research on teaching. The task here is to determine how knowledge and understanding from research are transformed so that they are reflected in the practical actions of teachers. From this view, the teacher education researcher is not like the typical researcher on teaching, adding bricks to our edifice of knowledge about teaching. Rather, the teacher education researcher is one who determines the uses of these bricks for the practical activities of teaching.

At the outset, I raised the question of how one would recognize one kind of research after the other fell from the bridge. That simple question raised a host of problems, for it became obvious that teacher education research is not one entity. To clarify the concept, its strong and weak senses were distinguished. In its strong sense, teacher education research is a subset of research on teaching. It differs from what is typically regarded as research on teaching by the age of the student and the content covered. It may profit from existing research on teaching by employing the concepts, methods, and designs of its own, particularly if the study of knowledge use and application becomes a major aspect of teacher education research.

Almost nothing has been said about the weak sense--about research that spans the general enterprise of teacher education. This broad area is no less important than teacher education research, strictly determined. It is, however, another area altogether. If it should fall off the bridge, there would be no point in asking about the difference between research on teaching and research on teacher education. Without the enterprise of teacher education, there would be no need for studies of the instructional situation that bring teacher and teacher educator together.

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FROM BOARDROOMS TO BLACKBOARDS: HOW CAN BUSINESS AND INDUSTRY SUPPORT TECHNOLOGY IN THE PUBLIC SCHOOLS?

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The popular and the academic press have thoroughly documented the dramatic evolution of the American economy in the last few decades. When confronted by the raw statistics of record unemployment and burgeoning trade and budget deficits, it is difficult to deny the impression that the United States is losing its position as the world's preeminent builder and supplier.

Blue collar workers have been the hardest hit, suffering a 23% increase in unemployment since December 1980. The number of manufacturing jobs declined from 34% to 24% between 1950 and 1978. President Reagan's administration predicts that unemployment will average 8.5% in 1985 and will not drop below 7% until 1988. Countries like Korea and Brazil, which used to be called "undeveloped," will take advantage of cheap labor and raw materials to assume the lion's share of steel, textile, and consumer electronics production in the future. Pat Choate, a policy analyst for TRW, Inc., predicts that 10 to 15 million American manufacturing workers and another 10 to 15 million service workers will see their jobs vanish in the structural realignment of the economy by the year 2000.[1]

The Changing Role of the American Worker

If the old jobs are vanishing, what will replace them? The pessimistic view is that the United States will become a relatively poor, weak country rather like England, living from its past heritage, drawing sustenance from its intellectual elite, and just barely surviving amid the backwash of economic dreadnoughts like Japan and Taiwan. The optimistic view is that the future for this country lies with technology. In a technological society, unemployment is less the result of a lack of jobs than of inadequate education. Even in the midst of unemployment, jobs are going begging, but they require sophisticated technical skills.

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[1] Please contact the author for references.

Experts on jobs for the future are of two minds. One group says that fields like computers, radio and telecommunications, robotics, and scientific instrumentation offer the best prospects. Another group insists that the vast majority of new jobs will be of the low-paying, menial variety--positions like waiters, fast-food workers, truck drivers, and janitors. In either event (or, most likely, both), there is no doubt that the world will be different. Researchers at the Robotics Institute of Carnegie-Mellon University estimate that in the next 20 years, robots will displace three million manufacturing and machinery operation jobs and potentially eliminate all eight million jobs by the year 2025. The rapidly developing field of computer-aided design will virtually eliminate the occupation of draftsman--a loss of 300,000 skilled jobs.

Already two-thirds of American workers spend their days creating, transforming, analyzing, and communicating information. According to Jean-Jacques Servan-Schreiber, the microchip is the key raw material for the future:

> The chip will eventually replace the barrel of oil as the basis for a new kind of information society...In the 1980s, everything will depend on moving away from energy-intensive industries, such as steel, toward energy-efficient industries based on combining scientific computers and data processing...These new technologies must be applied to accelerated programs in education and medicine...No industrialized country will survive the upheaval unless it makes use of this technological revolution to create the jobs of the future.

No one would seriously argue that microcomputers and related technologies will solve all the problems facing the American economy of the twenty-first century, but it is difficult to see how they cannot be used to fantastic advantage. The industrial era gave us machines that magnified our physical strength; the information age gives us machines that magnify our minds.

What and How Shall We Teach Our Children?

Traditionally, American public schools have managed to meet the demands of business and industry. The free public school movement began, after all, primarily to provide workers for the factories of the 1820s. High schools were opened to meet the need for more literate office workers of the 1880s.

Business and industry are rightly concerned whether their future supply of employees will have the skills to excel in a high-technology environment. What kinds of skills are they likely to need? A report of the Education Commission of the States proposes the following as possible tasks for the typical job description of 1990:

1. Monitor the work flow of production systems
2. Prepare input for and execute utility programs
3. Interface with other departments about technological enhancements of production
4. Locate computer program errors and devise improvements
5. Provide technical liaison with computer users
6. Evaluate and maintain new hardware and software

Are these the sort of high-level skills public school students are learning? The evidence indicates they are not. While much attention is focused on the fact that large numbers of students are not mastering the traditional basic skills, the more unpleasant reality is that basic skills are rock-bottom minimums. What future workers will really need is a much higher level of cognition made possible by such skills as the following:

1. Evaluate and analyze
2. Think critically
3. Undertake complex, mathematical problem-solving strategies
4. Organize and locate information, especially using technology
5. Synthesize apparently unrelated information
6. Apply creative solutions
7. Make decisions from incomplete data
8. Communicate with others

The National Assessment of Educational Progress has found that the higher-level literacy skills of 17-year-olds, such as being able to glean from a paragraph an idea not explicitly stated, are declining. Between 1971 and 1980, scores on inferential reading dropped from 64% to 62%. In 1971, 51% of 17-year-olds were able to write an adequate analysis of a literary selection. By 1980, that percentage had dropped to 41%. On a measure of mathematical judgment, such as being able to determine which facts are relevant to a problem, only 33% of 17-year-olds could pass in 1973. By 1978, that percentage had dropped to 29%. Science results are similar. According to the National Assessment, "the percentage of students achieving higher-order (science) skills is declining. Percentages of students unable to successfully demonstrate competence range from 39 to 85%, depending on the type of skill."

United Technologies, Inc. recently printed as an advertisement in Atlantic Monthly magazine an essay called "Our Failing Schools." It pointed out that half of new science and mathematics teachers are unqualified to teach these subjects. They are pressed into service with emergency certifications. Only one-third of American high schools even offer more than one year of mathematics or science. Half of all high school graduates have never had a one-year course in chemistry or physics. Almost half the states do not require a single mathematics or science course prior to graduation.

Five million Soviet high school students take calculus compared to 100,000 in the United States. Japan, with far less population, graduates more engineers than the United States. Nearly half the engineering doctorates awarded by American universities go to foreign nationals. In China, more people study English than there are English speakers in the United States.

Adults used to be functionally literate if they had completed the fourth grade. Today they need an eighth-grade education. With the growth of the technological imperative, they will soon need to complete the tenth grade. Computer literacy will be a given for the "haves." The "have-nots" will be relegated to those low-paying service jobs.

A study by the Center for Public Resources found that businesses may lose millions of dollars annually because their workers don't have the skills to do their jobs. More than half of the 184 companies responding to the survey said secretaries, managers, and bookkeeping personnel had deficiencies in grammar, spelling, and punctuation. Seventy-five percent of the companies have responded by creating in-house basic skills programs for their employees.

The Adult Performance Level Study by The University of Texas estimated that more than 30 million U.S. adults are functionally incompetent and another 54 million are only marginally competent. "We suspect the problem has been growing worse as society becomes more complicated," said study director Jim C. Cates. "Businesses are beginning to scream, because they're having to foot the bill for retraining." Business spends $30 billion to $50 billion a year on training, some $300 to $500 per employee. Much of this investment is for new employee orientation, but some is for retraining.

The quality of American education can be improved by the use of computers, increased instructional time, and a cooperative partnership between schools and businesses. Some experts believe that 80% of the core curriculum can be taught by computers by 1990. One significant advantage of this development is that computerized instruction will raise the caliber of instruction. American school districts are no longer attracting high quality individuals into teaching. The S.A.T. scores of education majors are embarrassingly low and dropping. Almost 90% of education budgets is dedicated to salaries, and this investment can only increase in the future. Technology can address both the quality and the salary issues if the educational delivery system is restructured to take advantage of computer technology. Schools will find computers useful for the same two reasons the business world finds them useful: they lower costs and increase productivity. By using computers to teach that part of the curriculum which they can do so well, a district could hire fewer, more competent teachers and increase their productivity by using computers to free them from much administrative paperwork. Computers could free teachers for the more affective aspects of good teaching. Merely adding technology onto the existing system will not work. Technology can work if schools are reorganized to take advantage of their investments in hardware, software, and human resources.

In improving our schools, it is also important to consider "time on task." American school children attend class 180 days per year. In Japan, East Germany, China, and the Soviet Union, children go to school 240 days per year. American students attend class for 5 hours per day, 5 days per week. In other countries, it is not uncommon for students to attend school 7 hours per day, 7 days per week. The results are beginning to show. More than 10% of the Japanese population has an I.Q. above 130. Only 2% of Americans can make this claim.

The idea of an 8:00 to 3:30 school day with a three-month summer vacation has been around for so long in this country that many people never stop to wonder how the idea began. It is actually a holdover from our past agriculture-based economy, when children were needed to do farm chores in the afternoons and to help harvest crops in the summer. Two hundred years ago, 85% of the American work force was agricultural. Today only 3% of us are farmers. Yet our school schedules still reflect this rural bias.

The changing demographics and work patterns of American families reinforce the need to leave behind this agricultural model of education. The vast majority of families now live in cities, and most women now work. The manifold problems of "latch key" children coming home to empty houses at 3:00 could be effectively eliminated with school days that end at the same time as parents' work days. If the length of the school year were increased, a number of benefits would result: students would spend more time studying, school buildings and equipment would not lie idle for three months annually, and traditionally underpaid schoolteachers could avoid competing with their students for low-paying summer jobs, instead earning respectable salaries from their 12-month contracts.

In Texas, school districts cannot legally require students to attend school more than 180 days per year. However, thanks to pressure from a Select Committee on Public Education, the Texas Education Agency has now authorized Texas districts to conduct year-round schools. Houston began such a program in 1982 at Janowski Elementary.

Students at Janowski Elementary are assigned to one of four 59-day enrollment tracks. Each track begins on a different date, and allows its students three staggered month-long vacation periods called "intersessions." So that its students will spend more time on task, Janowski tries to get them to skip at least one vacation period per year in favor of more schooling. The inducements for students include guest speakers from business and industry, field trips, and special instruction in computers. The inducement for parents is the fact that their children are honing needed academic skills. The high-interest classes are offered only during the intersessions.

The school has proven to be popular. In January 1984, the Houston School Board voted to rent additional space near Janowski to accommodate "vacationing" students who volunteered for the extra classes. When Janowski was first converted to a year-round school, the district assumed that overcrowding would be alleviated since only three-fourths of the students would be on campus at any given time. The intersession classes have proven to be so popular, however, that the school is as crowded as ever.

The Partnership of Schools and Business

An article in the December 15, 1983 issue of Business Week describes how some of the older East Coast cities such as Boston, New York, and Philadelphia have survived the recent recession better than expected because they have already moved away from manufacturing toward service industries. "Most economists believe that, to revitalize, the old cities will have to attract more and more service industries," the article states. But to do so, "...they have to provide good transportation, communications, and education to attract and keep service industries." Cited as an example is Boston. The emergence of such high-technology/information companies as Digital Equipment Corporation and Data Resources, Inc. evolved from Boston's principal economic resource--education.

Anthony Downs, an economist at the Brookings Institution, has said that California's excellent primary and secondary school system was a major contributor to that state's fast growth. The implication is obvious--education underlies the ability of business to thrive. When Proposition 13 passed, the state's renowned school system suffered. A recent evaluation of U.S. districts showed that California is no longer even among the top 10 states in education attainment or expenditures per pupil. When a dedication to quality in the classroom is lacking, the productivity of that state's economy necessarily decreases.

Apparently California has seen the danger and had a change of heart in order to protect its valleys of silicon. A 1982 California law gave a tax credit to companies that donated computer equipment to schools. As soon as this law was passed, Apple Computers, Inc. implemented its Kids Can't Wait computer-giveaway program. Other computer vendors, including IBM, Hewlett-Packard, Radio Shack, and Atari have since offered the state similar programs. In late October 1983, Governor George Deukmejian signed into law a Computers in Education Act. The new law, which could cost as much as $30 million a year for five years, encourages school districts to coordinate their computer programs for maximum educational achievement, teacher training, and dissemination of successful programs. The act abolished a welter of committees and advisory groups that had been overseeing the effort and established one Educational Technology Committee as the guiding body. This group is composed of experts in education and business representatives from high-technology industries.

A segment of society has always worried that if business becomes too involved with the schools, the schools will turn into career factories concerned only with producing narrowly-trained workers for industry. In fact, this simply has not happened. Most business leaders, especially those in the high-technology companies, know that workers cannot be useful if they do not have a solid general education. The rate of change in these industries is rapid: job skills will become obsolete several times during the lives of workers. Employees need to know how to learn; they are going to be doing a lot of it.

The business community's representative on the Task Force on Education for Economic Growth was Frank Cary, former board chairman of IBM. "We need people who have learned how to learn. Even in this time of high unemployment, there have been shortages in areas of high skills," Cary told the Education Commission of the States in a meeting about the task force study. He recommended business involvement from kindergarten through high school to help schools write curricula "more in tune with the nonacademic world." Cary added that "business needs to support our education system. It's not just good corporate citizenship to do so, but very much in the self-interest of business."

Many school administrators feel something of a moral obligation to seek the advice of those who pay for public education. In Houston, for example, the school district has an operating budget of $400 million, 75% of which is paid for by business and industry taxes. Local business and industry hire 80% to 95% of the district's graduates.

Historically, business and industry have offered several kinds of assistance to help schools prepare future generations for the job market. Among these are volunteer tutors, cooperative training, preferential hiring, apprenticeships, educational grants, and volunteer teachers.

Many companies encourage their employees to tutor public school students. "Business has a major responsibility to upgrade the quality of public education," James M. Zimmerman, president of Rich's, an Atlanta-based department store chain, told United Press International. "We cannot be an ostrich or run away from the issue." Zimmerman heads the Atlanta Partnership of Business and Education, Inc., a group of businesses dedicated to helping Atlanta's inner city schools. Rich's provides space for a second-chance high school for dropouts in one of its stores and provides tutors at two elementary schools.

Cooperative on-the-job training programs are a second type of assistance. For example, the Bankers Life Insurance Company of Des Moines, Iowa found that most of its young employees, which were drawn from rural school districts near Des Moines, did not have the skills needed to perform in a business environment. Accordingly, the company joined with 30 other companies in the city to create a remedial skills training program. About 15 students at a time take a three-week course that includes arithmetic, English, spelling, and office manners.

Business and industry may offer preferential hiring to students who meet certain standards. Such a program is already a reality in Boston. Twenty-one firms, including some high-technology companies, agreed to give city school graduates the first opportunity at entry-level jobs. Business got something in return: the district agreed to reduce the number of dropouts by 5% a year and to require that all graduates pass a minimum competency test in mathematics and reading.

Summer internships and shadowing programs are another form of assistance. Many companies offer students who want to enter a particular field an opportunity to apprentice themselves to a mentor, either during a summer program or part time during the regular school year. Most adolescents have had little exposure to the working world and the expectations of an employer. Further, many have only a vague idea, if any, about which field is most attractive to them. A shadow is a student who accompanies an executive for part of the business day, watching and learning from first-hand experience. Houston has such a program, called Executive High School Internships. Interns become full-time assistants to an executive sponsor. Generally, interns attend meetings, prepare reports, accompany their sponsors to inspect field operations, and assess results to gain a realistic picture of the organization.

Business and industry may make direct grants. A great many of these have gone to universities. According to George Low, President of Rensselaer Polytechnic Institute, "there is a dramatic shortage of engineering faculty at large public universities." The American Electronics Association estimates that industry will need 200,000 engineers by 1985. Given their current faculties, universities can furnish only 70,000. To encourage engineers to get Ph.D.s and to teach instead of going to work in business after getting their bachelor's degree, Exxon donated $15 million to 66 colleges and universities for faculty salary supplements. Westinghouse gave $1 million to Carnegie-Mellon University for a robotics institute. General Motors, General Electric, and Boeing gave $1 million to Rensselaer for a productivity center. IBM is giving colleges $40 million worth of advanced computer equipment and another $10 million as scholarships for master's level candidates. In South Carolina, the state education agency has added six high-technology resource centers to its Technical Education System. The centers teach advanced machine tooling, microelectronics, computer applications, robotics, and waste-water plant operation. South Carolina industries have donated more than $2 million in heavy equipment to the system. Sometimes local business groups make sizeable contributions to a single school. Such is the case at Houston's Worthing High School, a low-achieving, predominantly Black school. The Houston Jaycees are now trying to raise $1 million to purchase microcomputers for the school.

Companies also support employees who volunteer to teach on a temporary basis. Some companies allow employees whose skills are in particular demand in the classroom to take a leave of absence, with full pay, to teach. In Houston, Shell Oil and IBM both have lent staff members to teach computer science on a full-time basis. These executives are given a one-year sabbatical to share their expertise with young people.

Houston's Business-School Partnerships

The second action recommendation of the Task Force on Education for Economic Growth was that

> business leaders across the nation [should] work actively to establish partnerships between businesses and schools: team teaching using teachers and specialists from industry, for example, customized job-training efforts between businesses and schools; the training of students and teachers in the use of equipment; courses actually taught in offices and factories; business-sponsored recognition for outstanding teachers and principals, and a host of other cooperative ventures.

In 1972, the Houston Independent School District began a serious commitment to gaining the support of its business community. The Houston Chamber of Commerce and the Downtown Rotary Club, in particular, have shown a continuing interest in the welfare of the city school system, providing assistance in the form of speakers, vocational advisors, and direct funding. The River Oaks Rotary Club recently commended the Houston School Board for its outstanding support of educational technology.

The Volunteers in Public Schools program placed some 1,000 business representatives in classrooms in 1983 alone, many from high-technology companies. A conservative estimate of the value of this volunteer time is more than half a million dollars per year. During the 1982-83 school year, there were 85 Adopt a School programs. The program was later renamed Business/School Partnerships to reflect the idea that there are benefits for businesses as well as for schools. Many Houston businesses currently provide teaching assistance for this program. For example, Shell Oil provides 18 teacher assistants weekly to Marshall Middle School, whose program is in its fifth year. Shell Research provides 13 scientists every week to Jones High School for the Gifted to expand on the regular math, science, and computer curricula. Fluor sends engineers to teach minicourses in offshore power, law, sales, and the communication aspects of engineering to the High School for the Engineering Professions. M. W. Kellogg teaches a minicourse at the same school on on-the-job uses of the math students are learning in their classes. IBM teaches computer technology every Thursday at its offices to students from the Contemporary Learning Center. Last year's graduates all continued in the field through employment or college study. IBM also has seven professional tutors at Hamilton Middle School and provides Joseph Ohnikian, a mechanical engineer from the company's New York office, to teach an engineering lab and a calculus class full time at the High School for the Engineering Professions.

Surveys of Houston's business volunteers indicate that they think their contributions are worthwhile. In 1983, 94% said they thought they had served as an example of the business community; 66% felt they had increased students' skills in dealing with the world of work; 61% thought they had exposed students to the values of the free enterprise system.

The Houston Independent School District is responsible to local business and industry in developing its educational programs. Partly because Houston industries have a stake in wanting employees who are competent in mathematics and science, the district offers incentives, developed in cooperation with the chamber of commerce, to teachers of those subjects. For example, mathematics and science teachers receive $2,000 more per year than other teachers. Other teachers are eligible for equivalent stipends if they teach in inner-city schools or take extra training to become "teacher technologists" who teach about computers. Partly at the request of the city's business leaders, a course in economics has become a high school graduation requirement.

The Houston schools have a long history of innovative approaches to encouraging racial integration. The best known and most successful is the magnet school, which offers educational programs of such high quality that students willingly volunteer to attend. One of these, the Lamar School of Business Professions, provides a rigorous college preparatory curriculum for students who want to go into business and management. The program ties students' regular classwork to computer business applications like word processing, programming, data management, financial forecasting, project planning, and business graphics. For example, while students are taking accounting in their business classes, they also study accounting software in their computer classes.

A dedicated committee of businessmen and women participated in planning the school's curriculum and continues its input on a regular basis. At the beginning of 1984, to further augment the relationship between the Houston business community and the magnet school, the committee proposed setting up a Lamar School of Business Professions Foundation to seek funds for a variety of programs. The foundation will offer college scholarships of $500 to $2,000 for student achievements such as the best business computer program, the best entrepreneurial plan, and the best portfolio management. The latter will be a "paper" portfolio only, of course, but students will learn how to manage money and to track investment using computer technology.

Another action being considered by the Lamar Foundation is to encourage local businesses to donate business software compatible with the school's microcomputers. Relevant software would include data base programs, accounting systems, spreadsheets, and even specialized programs such as those a company's programmers might write to track a major project or to monitor production quality control. Many such types of software are written in the BASIC programming language and are not saleable anyway because they are too project-specific. Their heuristic value, however, could be substantial.

Yet another project proposed by the Lamar Foundation is to create a Consulting Bank for the school, a group of resource persons--lawyers, engineers, and venture capitalists--who agree to consult with students at no charge on various projects. If a bright young student wrote the software for a new educational game, for example, the next step would be to decide how to manufacture and market the product. The Consulting Bank would give that student a cooperative, supportive network of successful business individuals from whom to seek advice.

State governments can foster business-school cooperation. North Carolina is a good example of a state getting involved to improve its public school curriculum, with benefits to its tax base as well. Governor James Hunt, Jr. wants to attract high-technology industries to North Carolina, but he realizes that companies will not come unless there are skilled workers ready to go to work. As a result, millions of dollars of state funds have been allocated for science education in the public schools. The showpiece is the North Carolina School of Science and Mathematics, a public residential school for 11th and 12th graders. Students are admitted on the basis of SAT scores, grades, and personal recommendations. They must take mathematics every semester as well as enroll in physics, chemistry, and biology. Computer programming is required; electives include genetics and biochemistry. The teachers, mostly Ph.D.s, earn 15% more than state scale. The school seems to be successful; the first graduating class had the second highest number of National Merit semifinalists in the country.

The state also offers a unique retraining program. When a company offers to move to North Carolina, state officials and company executives confer on which skills are needed of employees. The community colleges then retool and produce the needed employees--all at no charge to the company. Does it work? Yes. More than half the Fortune 500 companies now have a manufacturing plant in North Carolina. The net increase in jobs for the state is 150,000.

As for paying for such innovative programs, Governor Hunt told other governors attending an Education Commission of the States meeting on the Task Force on Education for Economic Growth that they should allot new resources accruing from their states' improved economies to education. "I think our people want to have it done, by one means or another," Governor Hunt said. "I think the first choice is to use money from the economic rebound. I have said next year is the year schools have first claim on new funds. If our growth is as vigorous as we think it will be, I think it will be adequate."

The Democratization of Technology

Technology holds great promise for boosting classroom learning, but public education must have the support of the business community if the microchip is to prove more useful than other highly touted innovations of the past. Microcomputers can unlock the knowledge of the whole world to a young mind if they have been programmed and networked to make the "electronic village" of today accessible. Business and industry leaders know first hand how difficult it is to obtain high quality programming. By supporting local as well as national efforts to fund educational software development, hardware acquisition, and teacher technological retraining, the American business community will be investing in the future of us all.

The schools have always asked the business community for money, and the results have usually been gratifying. But more than money is needed today. Even more imperative is the willingness of business and industry to share their human resources, to give their personal time and individual commitment.

No one can predict exactly where the new technologies will take us. George Orwell saw them being used by a malevolent, centralized government to subjugate the populace. When he wrote 1984 in the 1940s, computers were huge machines that filled entire rooms, and only governments could afford them. Therein lies Orwell's mistake. He could not envisage that the microchip would decentralize computer technology, much less predict that thousands of Santa Clauses would be buying powerful computers from franchise stores to place under their 1983 Christmas trees for their school-aged children.

Today teenaged boys and girls can, thanks to personal computers and interactive networks, direct their inquiries to the farthest corners of the world, some even audaciously penetrating supposedly secure major computer systems from the confines of their bedrooms!

In America, the decision was made long ago to give local school districts the maximum degree of freedom. We have no national school system. Our enterprise system is similarly free. Technology can free us from the age-old fetters of ignorance, provincialism, and autocracy. If business and industry will help the public schools use technology wisely, we need never fear that 1984 will become 1984.

PRESERVICE TEACHER EDUCATION

PRESERVICE TEACHER EDUCATION

The preservice period is defined by many educators as the training period in teacher education that concludes with certification. Programs may require four years, five years, or other variations of time. The abundance of legislative action that can impact preservice teacher education warrants collaboration among policymakers, researchers, and teacher educators. Such legislation must be based on the most current information available regarding teacher education if it is to benefit teacher preparation.

As teacher educators, policymakers, and researchers begin to work together, questions emerge regarding preservice teacher education: (1) How desirable are the existing preservice model programs? Are they or should they be based on research? (2) How is the research base in teacher education currently defined? (3) What is the state of the art with regard to the training of preservice teachers? and (4) What questions should research address in order to better inform preservice practice?

This section of papers focuses on many of the issues faced by groups involved in the improvement of preservice teacher education.

Preservice Plenary Presentations

POLICY
J. Ted Sanders, Superintendent
Illinois State Board of Education

RESEARCH
Virginia Koehler, Visiting Professor
University of Maryland

PRACTICE
Robert L. Egbert, Professor
University of Nebraska

Sanders details in "Teacher Education and the Chiefs" recommendations that the Ad Hoc Committee on Teacher Certification, Preparation and Accreditation deems worthy of consideration by groups examining ways to improve the quality of teachers and teaching. These 36 recommendations are discussed under the following subgroupings: attracting persons to the teaching profession, preparing persons for teaching, licensing persons for the teaching profession, retaining teachers, and research recommendations.

In "Research on Preservice Teacher Education," Koehler summarizes and analyzes the existing research on preservice teacher education and its implications for policymaking and practice. She argues that much of the research and the policy interpretations of its findings are based on inappropriate elaborations of two concepts of teacher education programs. Koehler discusses the need for more adequate teacher education research and policymaking with the prerequisite improvement in conceptions of the purposes of teacher education and the relationship between preparation and practice.

Egbert provides a historical perspective on the cyclical re-examination of education and teacher preparation in "The Practice of Preservice Teacher Education." From this perspective, he examines current innovations in teacher education and the potential consequences of these innovations for teachers, students, and public policy.

Preservice Concurrent Presentations

POLICY

Richard C. Kunkel, Executive Director
National Council for Accreditation of Teacher Education

David G. Imig, Executive Director
American Association of Colleges of Teacher Education

RESEARCH

Greta Morine-Dershimer, Professor
Syracuse University

Walter Doyle, Program Director
Research and Development Center for Teacher Education

PRACTICE

Johnnie R. Mills, Acting Director, Professional Laboratory Experiences
Acting Head, Educational Leadership and Habilitative Services
Grambling State University

George N. Smith, Vice President
Northern Arizona University

In "The Importance of the Accreditation Process to American Education: A Policy Statement," Kunkel discusses the place and appropriate future of national accreditation and its relationship to American education. He relates this topic to monitoring educational policy, the potential implications of this policy, and program development and evaluation as well.

In "Contrasting Views of Teacher Education: An Impediment to Reform," Imig examines elements of the present context that affect the reform of teacher education, identifies the agendas of groups that influence the policymaking process, and contrasts establishment and disestablishment views of reform. He identifies important questions policymakers should be asking and outlines interventions educators can make to meet the challenge of reforming teacher education.

Morine-Dershimer's involvement in recent teacher education research provides one answer to how research can help teacher educators right now. In "Optimizing Opportunity in Teacher Education Research," the author describes how doctoral students' needs for developing skills in research and evaluation and teacher educators' needs for course and program feedback can be simultaneously satisfied by carefully designed research projects.

How teachers learn to teach has become a major focus for research in teacher education. Doyle, in "Learning to Teach: An Emerging Direction in Research on Preservice Teacher Education," summarizes the relevant literature of this emerging area concerned with the phases of teacher preparation: pretraining, preservice, induction, and inservice.

In "Preservice Teacher Education: A Survival Strategy," Mills discusses how the College of Education at Grambling State University developed a successful alternative approach to training preservice teachers and examines four key components of this effort: curriculum revision, faculty development, the monitoring system, and the diagnostic program.

Describing an innovative new "university without walls" program, Smith provides the history and legislative mandate for the Center for Excellence in Education, which subsumes the existing College of Education at Northern Arizona University. In "New Frontiers in Education: Northern Arizona University's Center for Excellence in Education," Smith explains the center's mission, organizational structure, administrative hierarchy, development, and implementation.

TEACHER EDUCATION AND THE CHIEFS

J. Ted Sanders
Nevada State Department of Education

Have you questioned why the first wave of educational reform reports focused so little attention on the preparation of teachers? Perhaps it is trite to note the necessity of good teachers if we are to have good schools. It may be that the issues surrounding the relationship between teacher preparation and teacher competence are so complex that they evade close inspection and investigation. Or perhaps teacher education resides on hallowed ground safely out of reach of all but priestly scholars.

At any rate, belief in the importance of the teacher and of teacher preparation as well as recognition that we all have something at stake in the enterprise has prompted a second wave of keen interest in the topic. Among the interested individuals and groups is the Council of Chief State School Officers. The council was prodded to action by a deep and abiding concern about whether or not America will have the trained teaching force required to deal with education problems in the eighties and beyond. In August 1980, the council appointed an Ad Hoc Committee on Teacher Certification, Preparation, and Accreditation to address these very issues. The committee was specifically charged with examining the following factors influencing the quality of teachers and the quality of teaching:

Recruitment and selection procedures
Increased social and legal demands on teaching performance
Competency-based teacher education
Certification standards
Accreditation
Length of employment
Level of compensation.

Further, the committee was charged with conducting an in-depth analysis of the most critical issues in each area and then developing practical recommendations for action.

The committee's first activity was a survey of each of the 50 chief state school officers aimed at documenting current state policies that affect the quality of teachers and teaching. The survey refocused the mission somewhat by examining six major policy areas:

Recruitment and selection
Certification or licensing standards
Competency-based teacher education
Inservice education
Personnel evaluation
Recertification of teachers.

The questionnaire was unique in its form and approach. It stated alternative policy options in each of the six areas and asked the chiefs if the policy was currently in effect in their states; whether or not they favored it, regardless of whether or not it was in effect; whether or not they expected a change in the policy by 1985; what they saw as the most desirable policy on the issue; and what events might facilitate or deter the adoption of the desirable policy.

The committee reported its findings and recommendations to the council in November 1983. The council acted to commend the report, Staffing the Nation's Schools: A National Emergency (Sanders, 1984), to each chief state school officer as well as to other interested parties for careful study and possible action.

The report centers its attention on issues, trends, and recommendations for attracting, preparing, licensing, and retaining persons for the teaching profession. It carefully acknowledges that the achievements of American schools have been nothing short of spectacular. The report agrees with Ernest Boyer (1983b), President of the Carnegie Foundation for the Advancement of Teaching and former United States Commissioner, in his assessment of the current situation as "a national emergency in teaching.... Rewards are few, morale is low, the best teachers are bailing out and the supply of good recruits is drying up." The report notes changes in the general educational level of the nation's citizens and the resultant effect upon the status of teaching, and it examines other social changes such as the influence of the women's movement.

It goes without saying that each of the 50 states is unique in its approach to teacher preparation and licensure; however, the survey analysis pointed out that in spite of these differences, there are marked similarities among states in the same region of the country. Neighboring states appear not only to be moving in the same direction but also to be at similar points in their consideration of the adoption of new teacher education policies.

With few exceptions, the south Atlantic states have been the leaders in implementing changes in teacher education. During the seventies, they began to test for basic skills as a prerequisite for entering teacher education programs, to use competency tests of basic and professional skills as qualifiers for initial certification, and to link recertification to continuing education and on-the-job performance.

The wave of change has continued westward across the Sunbelt from Florida through Oklahoma and out to California. The survey responses provide few, if any, clues about why these states have led the way in making sweeping changes. Florida, for example, has made major changes in its certification procedures, yet population increases there have been largely made up of senior citizens. Because teacher salaries are lowest in the Southeast, it seems unlikely that such changes were adopted because talented college students were attracted to teaching positions with high salaries. The Sunbelt states exhibit another surprising characteristic. These states have generally introduced reforms in teacher education policies in an all-at-once, "grand-design" manner rather than experimenting with changes one at a time. In contrast, the other states now proposing changes in teacher education policies are moving more slowly.

The states stretching westward from the middle Atlantic area are involved in studies aimed at redesigning their teacher education regulations. These states are moving more cautiously than the Sunbelt states and usually consider potential changes one at a time. They are working to achieve consensus among a variety of educational interest groups as they proceed with proposed changes.

Another group of states, many of them in the Midwest, have not made any recent changes in their standards for teacher education and have no plans to do so. Their reasons vary. Some believe that traditional standards show adequate concern for the quality of teacher education. Others are cynical that competency testing and other mechanisms controllable by state authorities will have real impact on the quality of teachers and training.

Committee Recommendations

The report enumerates 36 recommendations that the Ad Hoc Committee on Teacher Certification, Preparation, and Accreditation believes worthy of consideration by groups examining ways to improve the quality of teachers and teaching. These recommendations are as follows:

Attracting Persons to the Teaching Profession

1. State education agencies should take a leadership role in attracting persons into the education profession.
2. The Council of Chief State School Officers should urge federal officials to earmark some portion of federal financial aid to highly able college students committed to careers in elementary and secondary teaching.
3. Successful operating models for attracting persons to the teaching profession should be identified, and information pertaining to these models should be disseminated to all the states.
4. Research related to supply, demand, and minimum standards for entry into teacher preparation programs should be high on the agendas of regional education laboratories and national education centers. Information on questions related to the recruitment of candidates into the teaching profession should be one of the highest priorities on the national education research agenda.
5. A system of assessing and screening prospective teacher candidates should be implemented by every state, and this system should include procedures for screening for literacy and for personal qualities needed in persons entering the profession.
6. State and local education agencies should promote the use of alternative, nontraditional methods of assigning state-qualified persons to the classroom as a means of attracting more persons into the teaching profession, especially those who have not selected teaching as their primary career goal.

Preparing Persons for Teaching

7. State education agencies that approve higher education programs should strengthen their standards for teacher training. The criteria for program approval should include consideration of admissions standards, student performance, subject-area competence, and pedagogic proficiency.

The council emphasizes the importance of admissions standards and student performance and of correlating the criteria used for selecting persons for a program with those used to determine successful completion of a program. All four criteria should be designed to measure whether or not persons are "fit" or ready to teach.

8. Persons enrolled in both elementary and secondary teacher preparation programs should have liberal arts training and should be given an opportunity to acquire a balanced teacher preparation program. The assumption is made that current programs of teacher preparation are unbalanced because programs for elementary teachers tend to require students to overgeneralize, and comparable programs for preparation of secondary teachers tend to require students to overspecialize.
9. State education agencies and institutions of higher education should extend teacher training programs to increase the amount of time devoted to the learning of pedagogic skills and increase the amount of time for self-evaluation and evaluation by others.
10. All efforts to set policies for changing and improving programs of teacher preparation should be accomplished through cooperative efforts among state education agencies, institutions of higher education, and other appropriate groups. Further, such policies should include but not be limited to the implementation of a system of program approval for competency-based teacher preparation programs.
11. The Chief State School Officers, when reviewing proposals for new requirements for teacher education programs, should consider their potential effect on the willingness of colleges to continue the programs.
12. The Chief State School Officers should support programs and activities that permit talented individuals who have not completed approved undergraduate preparation programs to be prepared to teach. Such programs might include summer and fifth-year programs and specially designed inservice training activities. These options should be available to able students from all institutions, but they will be particularly useful for ensuring that students at institutions without teacher preparation programs are not lost from the pool of prospective teachers.
13. The Council of Chief State School Officers should call upon institutions of higher education and elementary and secondary schools to form partnerships as a vehicle for implementing many of these recommendations.

Licensing Persons for the Teaching Profession

14. Licensing persons for the teaching profession should be the responsibility of state education agencies and state boards of education.
15. States that have permanent or life certificates should provide periodic review as a condition of continuing certification.
16. Teachers should be required to participate in staff development activities related to their area(s) of responsibility as a condition of qualifying for continued certification. If it is in a state's interest for teachers to obtain additional certification endorsements, continued certification should be approved for such course work, providing there is a shortage of teachers who hold such endorsements.
17. State education agencies should develop alternative approaches to certifying persons desiring to enter the teaching profession. Such options might include using credit for work experience or competency measures as a means of qualifying for certification. These options should be available to able graduates from all institutions, but they will be particularly useful for ensuring that students in high quality institutions without teacher preparation programs are not lost from the pool of prospective teachers.
18. Accreditation standards for institutions that prepare teachers should be made comparable in requirements for teacher preparation programs among the states in order to promote reciprocity in the certification of teachers.

Retaining Teachers

19. The Council of Chief State School Officers should endorse the recommendations made by a variety of other professional education associations to provide teachers with higher salaries, implement master teacher programs, and incorporate differentiated staffing structures within the schools. Additionally, members of the council should take an active role in supporting such recommendations within each of their respective states.
20. State education agencies should provide the leadership necessary to develop and implement a program whereby at least 1% of each state's budget for elementary and secondary education would be allocated to the professional development of practicing teachers.
21. Teachers should have extended contracts and the additional time should be used for professional and program development activities. If the additional

time is not used for this purpose, it should be used for extending the regular school program.

22. States should improve working conditions for teachers by helping districts achieve the following goals:
    Limiting enrollment in classes to an appropriate size.
    Providing well-equipped classrooms as well as adequate supplies and instructional materials.
    Allowing teachers to teach rather than requiring them to use instructional time to perform nonteaching duties.
    Providing teachers adequate time to teach what they are required to teach.

Research Recommendations

23. The current shortage of teachers in certain areas will grow more severe through the 1980s. A part of the teacher pool may, of necessity, have to come from nontraditional areas. Therefore, research is needed on the discontinuity of supply and demand in the teaching profession, including the delineation of probable areas of nationwide and regional shortage.
24. Because of projected shortages in the traditional teaching pool, an assumption may be made that future teachers are likely to be a more diverse group in age, training, background, and experience. Therefore, research is needed to determine which nontraditional groups have a pool of potential teachers, persons who, with little additional training, could be added to the teaching pool.
25. Little information seems to be available on how to attract persons into the field of education. Therefore, research needs to be done to determine why people select education as a profession and why people elect not to become teachers. Research is also needed to understand the impact of the changing career aspirations of today's women and how these changing aspirations will affect the teacher pool. Comparable research is needed on the various minority groups.
26. Many assumptions are made about what could happen to the participation of women and minorities in the teaching profession. For example, as more minorities enter the field of education, if these minority persons come from educationally impoverished backgrounds, it is often assumed they will have a negative impact on the quality of education in the classroom. Therefore, it

is imperative that research be conducted on the potential impact of changing demographics on the teaching profession.

27. The measures used for initial assessment and screening of potential teachers need to be improved so that they are better predictors of future teaching success. Research is needed to generate more effective measures for admitting persons into programs of teacher preparation and to determine what criteria are appropriate for the selection of teacher candidates. Research also needs to be conducted by institutions of higher education on how their graduates perform after leaving their teacher preparation programs.
28. As teacher preparation requirements increase, research is needed to assess the impact of such requirements on the supply of teachers to the profession.
29. Research is needed to determine the elements of effective teacher training and, considering the great interest in competency-based programs, to compare them with other traditional programs.
30. Research is needed to determine the most appropriate ways to evaluate or measure the progress of students enrolled in a teacher preparation program.
31. Research needs to be done to determine the most effective means of measuring the competency of teachers upon completion of their teacher preparation program as well as 1 year, 5 years, and 10 years after the completion of the program.
32. With respect to the licensing of teachers, research is needed to determine what relationship exists between performance on a teacher competency exam and teacher performance in the classroom.
33. Three states have implemented a comprehensive program of competency testing of persons desiring to enter the teaching profession. These programs need evaluation. What has happened in these three states? Do these and other competency testing programs work?
34. A research survey should be conducted to inquire of practicing teachers what incentives and approaches (e.g., merit pay, differentiated staffing, improved working conditions) they see as desirable and effective in retaining teachers. What changes in the workplace would increase the likelihood that teachers would continue to teach?
35. Research is needed to assist local education agencies in effective evaluation of the performance of teachers. Such research should examine whether or not there is a correlation between fair and thorough evaluation of teachers and retention of teachers in the classroom.

36. Research is needed to enable educators to determine the most efficient and effective means of identifying the continuing education needs of teachers and providing the most efficient and effective access to such training after teachers are working full time in the classroom.

Teacher Preparation and Certification

This paper will not treat all the recommendations in detail. Rather it will focus upon recommendations having to do with teacher preparation and certification. The reader is referred to the report, Staffing the Nation's Schools: A National Emergency (Sanders, 1984), for a more detailed treatment.

State legislatures have generally diffused the governance of teacher preparation programs between state boards of higher education and state boards of education (or in some cases independent professional standards commissions). Direct authority for programs generally resides with the state boards of higher education and authority to set certification criteria with the state boards of education. Historically, the certification standards of most states have tended to give institutions of higher education even greater governance authority than was intended by legislative bodies. Certification standards simply have not been precise enough to adequately differentiate between effective and noneffective teacher preparation programs. These standards have generally been limited to prescribing courses and credit hours.

The committee identified three ways that state education agencies can promote the necessary changes in teacher preparation programs. These are:

The development and implementation of program approval processes that directly link state-approved teacher preparation programs with what has been learned about effective teaching and teacher preparation through scientific inquiry.

The development and use of measures to assess the competency of persons exiting from teacher preparation in order to assure adequate quality control.

The improvement of teacher certification regulations to assure that the teacher preparation curriculum and certification mechanisms are directly related to the unique needs of each state.

Given the ever-expanding body of knowledge about teaching and learning, the committee believes that programs should be extended to allow for more professional preparation, more field experience, and opportunities for transition from preparation to practice. Although the first two may be accomplished through creative rearrangement of existing teacher preparation programs, the latter requires that we reconceive our view of the beginning years of teaching. Realizing such a reconception will not be easy. Resources are scarce, and many school officials are not presently willing to assume the additional responsibility of sharing in the "finishing" of the teacher.

The pursuit of greater involvement of chiefs and state education agencies in teacher preparation should also cause greater involvement of a variety of educational constituencies such as local boards, administrators, and teacher groups. States have traditionally sought to involve practitioners in the development of certification standards.

In Nevada, we have established a Professional Standards Commission to make recommendations to the State Board of Education on all matters related to teacher certification. The commission is broadly representative of the profession and the public. This commission has set about to systematically examine each certification area at least once every five years. As reviews are conducted, the commission extends its talent through the creation of ad hoc task forces made up of persons with expertise related to the area under study. These groups are able to blend both research and practical knowledge to determine what constitutes adequate preparation to teach in a particular assignment.

The time seems ripe for us to join together in a renaissance of teacher education. We have a "national emergency in teaching." The public is demanding a new level of quality. We're in this together. Excellence in higher education depends upon excellence in elementary and secondary education; excellence in elementary and secondary education depends upon the teachers trained at colleges and universities. What remains is for each of us to stretch beyond our institutional and special interests and realize our collective potential.

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RESEARCH ON PRESERVICE TEACHER EDUCATION

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The purpose of this article is to summarize and analyze the existing research on preservice teacher education, and to suggest areas and approaches for future research. I will argue that much of the research and the policy interpretations of research findings are based on inappropriate elaborations of two conceptions of teacher education programs. I will argue further that improvement of teacher education research and policymaking requires a more adequate conception of the purposes of teacher education and of the relationship between preparation and practice.

A review of teacher education research typically begins with a lament concerning the lack and/or poor quality of studies on preservice teacher education. The quantity complaints are often qualified by the phrase "good studies." The quality complaints often contain the assertion that there are lots of studies, but they do not add up to anything; they are piecemeal and particularistic.

For this paper a sample of existing research was identified, categorized, and reviewed. Rather than discounting these studies, I used them as a basis for research analysis, for relating research to different conceptions of teacher preparation, and for making proposals about potential research areas. An ERIC search using the category "research on preservice education" yielded 233 entries for the last four years, 220 of which could be considered from a broad perspective as research on preservice teacher education. Research, by my definition, included surveys of existing practices, evaluations or documentations of existing or experimental practices; surveys of practitioners or students concerning their competencies/attitudes acquired from or concerning preservice teacher education; measurement studies; ethnographies; and research reviews. A portion of these studies was examined in depth. This sample of abstracts revealed much about the status of research on preservice teacher education as well as the conditions under which such research is carried out in teacher education institutions, and about the concerns of preservice teacher educators who conduct the research.

The Literature

The studies which were identified in the ERIC search (and selected others) were divided into six categories: studies of the skills, competencies, and attitudes of practicing classroom teachers that reflect on their preservice teacher education; studies of the skills, competencies, and attitudes of teacher education students that reflect either on their present or past education or on the future quality of the teaching work force; evaluations of teacher education courses, of methods within courses, or of complete programs; studies of teacher educators; studies of institutions; and studies of studies and research reviews.

Practicing Teachers

Many authors surveyed practicing teachers through mailed questionnaires or interviews (for example, Cheek, 1982). Other researchers observed teachers in their classrooms for the purposes of evaluating the results of specific preservice teacher education practices or for assessing the quality of preservice teacher education programs in general (for example, Ayers, 1982). Several of the studies were approached from a special interest perspective (e.g., school/community relations, handicapped, exceptional children, reading, mathematics). In these studies teachers generally suggested that they could know more; they or the investigators concluded on the basis of the perceived needs that their preservice education did not provide enough training in these areas. A few researchers assessed the basic skills of teachers with paper and pencil tests (for example, Sametz & McLoughlin, 1983); others asked teachers about their subject matter and pedagogical preparation (for example, Hegvedt-Wilson, 1982). Most of the latter studies concluded that teachers were not well prepared in classroom management and in instructional strategies, and that these needs should be addressed at the preservice level.

Preservice Students

Several researchers in the ERIC-identified studies investigated the skills, attitudes, perceptions, and/or beliefs of student teachers. Findings from these studies indicate perceived student teacher deficiency in subject matter knowledge (Wheeler & Feghali, 1983; Diem, 1982). Also, investigators found differences in the cognitive development levels of elementary and secondary preservice students (Silverman & Cresswell, 1982); and others examined math anxiety or perceptions of confidence in areas such as curriculum tasks and evaluation (for example, Beasley, 1981). A substantial number of these studies involve the use of preservice students in more basic or test development research. Most researchers concluded that the preservice students needed more work in whatever knowledge, skills, attitudes, or competencies were investigated.

Surprisingly, none of the studies investigated the more general attitudes of preservice teachers toward teaching, a topic extensively investigated in the 1970s. These attitude studies, reviewed by Veenman (1984), directed attention to the shift in attitudes from idealistic, progressive, or liberal during preservice to more traditional, conservative, or custodial in student teaching and in the first year of teaching. These studies have often been used to suggest that the treatment effects of teacher education wash out during field experience.

Course/Program/Method Evaluations

By far, the largest category developed from the ERIC research was that of methods, course, and program evaluations. The largest number of these studies was noncomparative: that is, one course or method was evaluated with pre- and post- or just post-testing (for example, Cohen & Alroi, 1981; Martin, 1981). The second largest group was comprised of comparative groups of students with two or three groups of students receiving somewhat different treatments (for example, Henry, 1982). A number of studies also involved the use of control groups (for example, Hay, 1983). The courses and methods included such topics as science content for elementary preservice students to reduce science anxiety, science inquiry methods, teaching models, early vs. later field experiences, history and philosophy of science courses for developing an understanding of science, and sex stereotyping modules. All but one of the studies examined only changes in preservice teachers' skills/attitudes, competencies, and other attributes. In the one case, researchers also looked at changes in pupils' achievement in classrooms taught by the treated preservice students (Miller, 1981). None of the studies involved long-term follow-up of the students into classroom teaching, nor did they include descriptive research on the treatments themselves. Most of the studies found treatment effects.

Few were as comprehensive and large-scale as some earlier studies of program effects which were able to take advantage of larger student bodies, larger numbers of differentiated programs, and probably more monetary support. For example, Keislar, Fenstermacher, Thayer, and Friedman (1977) studied the effects of five coherent and differentiated preservice program teams and one eclectic team on the students' intentions to undertake fairly narrow and well-defined classes of behaviors. There were significant treatment effects on such items as self-disclosure with students, differences that held up five years after the teachers were in the classroom.

A special group in this set consists of the evaluations of teacher education programs. The Tennessee Technological University, for example, developed an extensive data base on its teacher education students and followed them into classrooms (Ayers, 1982). Ohio State followed 450 of its graduates (Carter & DiBella, 1982), and Indiana followed 97 of the students of its block program (Buffie, 1982). However, given the extreme conceptual and technical difficulties in attributing a teacher's behavior, attitudes, and/or beliefs to a teacher education program, these studies often say more about practicing teachers than about the quality of their preservice programs.

Teacher Educators

Very few studies in the ERIC search investigated teacher educators. Raths and Ruchkin (1984) looked at the differences in the ways in which professors approached their methods courses in R&D institutions and other types of teacher education programs. They identified six different approaches to the use of research in methods courses and found a relationship between methods professors' approaches and the university from which they had received their degree--not the institution in which they were teaching. Raths and Katz (1982) surveyed social studies methods professors and found that they used a narrow range of instructional techniques and that their descriptions of the attributes of successful classroom teaching did not match their goals for their classes.

A relatively extensive body of research on supervising and cooperating teachers does not appear in this ERIC search. This research provides information about practice teaching which should be a cause for concern. Griffin et al. (1983) found very little in clinical feedback sessions that related to the student teachers' formal pedagogical education or to research on teaching and learning. In fact, the feedback was particularistic and provided few explanations. Zimpher, DeVoss, and Nott (1980) and Koehler (1984) found that university supervisors are relatively clear about and can define the nature of their roles, only one of which relates to clinical feedback. Others (Zeichner, 1980; Johnson, 1969; Yee, 1969) agreed that the primary influence on the student teachers' instructional style is the cooperating teacher. Koehler (1984) also found that university supervisors' beliefs about teaching, uses of research in practice, and formal pedagogical education for preservice teachers are similar to teachers' views: that is, as Doyle and Ponder (1976) described about teachers, they employ the practicality ethic, individualism, immediacy, and concreteness.

Institutional Studies

Most of the studies of institutions were surveys of curriculum offerings with respect to special interests such as sex education, trade and industry, social studies, and mathematics (for example, Farmer, 1983). Others were surveys of institutions concerning selection procedures or adjustments in selection criteria for special populations of students (for example, Dejnozka & Smiley, 1983). A recent comprehensive survey (Feistritzer, 1984), for example, investigated the number of teacher preparation institutions, their selection procedures, characteristics of their students, how many graduates actually become teachers, and state regulations for teacher education institutions.

A very few investigated the effects of institutions on their faculty (Raths & Ruchkin, 1984; and Koehler, 1984--both described above); and several investigated or documented changes in teacher education institutions (Ponzio, 1984--part of Far West Laboratory's Project designed to help institutions use research in their elementary education programs; see also Egbert & Fenstermacher, 1984, for descriptions and analyses of similar programs).

Research Reviews and Studies of Studies

The ERIC search uncovered a number of products that were encouraging because they displayed what could be done with this highly disparate, particularistic body of research. These were research reviews and syntheses. At the University of Oregon, for example, a group of faculty members and graduate students participated in a seminar which investigated the issue of preservice teachers' transfer of skills from college courses to field experiences (Hull, 1981). The product of this process is a research synthesis that teaches 12 interesting and useful conclusions, such as:

> 3. CBTE has demonstrated the capability for, and achieving transfer of specific techniques. Questions remain regarding stability of training effect and value of discreet skills in satisfying multi-dimensional classroom demands.
>
> 10. The research into teacher characteristics and attitudes sets indicates that there are "global qualities" readily recognizable, if rarely defined. These qualities identify potentially successful teachers and earmark a few people whose intrinsic abilities match the prerequisites for effective transfer of training. (pp. 47 and 49)

A meta-analysis was conducted of science inquiry methods (Sweitzer, 1982); and Katz, Raths, Mohanty, Kurachi, and Irving (1981) conducted a study of follow-up studies. It would appear from this small body of reports that the research that has been conducted on teacher education should be taken seriously; that the research can be useful in arriving at tentative conclusions about the state of practice; and that it can be potentially useful for determining future directions for additional research.

Analysis of the Research

Bootstrap Research

The research reviewed above says much about the way in which research is conducted in teacher education institutions. With the exceptions of some of the large-scale surveys and the follow-up studies, very little financial support has been provided for teacher education research. Most of these studies, if funded at all, were small university grants--possibly support for a graduate student, some computer funds, and clerical help. Others were dissertations. This accounts, in part, for the emphasis of course/method evaluations which involve measuring students' skills or knowledge after the treatment and sometimes before and at times dividing the students into different classes for a comparative study. This is inexpensive research and requires few person hours.

The research is generally undertaken on top of an already full academic load. Teacher educators have a heavier teaching schedule than faculty members in the more research-oriented graduate programs. In many studies, resources were employed in quite ingenious ways. For example, McCaleb (1984) involved students from a graduate research course in a follow-up study of University of Maryland students. The students observed teachers as well as interviewed them. But Popham, Fenstermacher, and Hanelin (1975) described their own attempts at developing and using a teacher performance test in their teacher education research "as bootstrap research...it typically yields as much information about boots and straps as it does about the research variables under analysis" (p. 7).

Instrumental Research

Much of the research is instrumental to an institution, a program, or a special interest group. Institutions want or are forced into program evaluations (for example, by NCATE), and special interest groups want more emphasis on their areas in preservice teacher education. Haberman (1984) pointed out that "college curricula are political agreements among faculty and differ only in response to power variations in the organization settings..." (p. 106). It would appear that this political/organizational base has been extended into the conduct of preservice teacher education research.

Technical Problems

Given the nature of the way in which the research is conducted and the incredibly meager support that is provided, it is not surprising that there are technical problems with the research. Often the samples are too small for the types of analyses conducted. Program, method, and course evaluations do not assess the implementation of the method, nor what goes on in the "control" classrooms. Shortcuts are taken in reliability and validity tests of the measures, and there are ecological problems in assessing a skill conducted in front of peers or a videotape machine.

Faulty Assumptions and Interpretations

Much of the recent criticism of teacher education is based on the attitudes and perceptions of teachers--often beginning teachers--about the adequacy of their skills and their teacher preparation programs. Katz, Raths, Mohanty, Kurachi, and Irving (1981) in reviewing follow-up research referred to the problem with this evaluation model as the "feed-forward problem:"

> All preservice training can be characterized as anticipatory socialization, which inevitably involves giving students answers to questions not yet asked, and not likely to be asked until students are in the thick of actual service. This aspect of socialization can be called the feed-forward problem. It includes resistance from the student at the time of exposure to given learnings and, later, protestations that the same learnings had not been provided, should have been provided, or should have been provided in stronger doses. (p. 21)

Consider the complaint from teachers that they have not acquired enough management skills. Doyle (1977) discussed the "prepotency" of certain behaviors in natural situations over those learned in nonclassroom settings. The beginning teacher is not only learning about the context of the new school, including the culture of the classroom behaviors of the students, but is having to adjust management and organization skills learned in preparation programs to that context. More time on management skills during preservice preparation would take time away from other types of learning that may be equally important to the beginning teacher, but which are perhaps not as salient or potent as management skills. Further, it is questionable whether beginning teachers would ever feel comfortable with their management skills, regardless of the strength of their management training in preservice.

A second conceptual problem relates to the criticism of teacher education programs based on the entering abilities of students. The probability is high that a higher academic caliber student entering a program will score higher on tests when leaving the program. But these scores say nothing about the degree to which the program helps individual students acquire the skills, knowledge, and ways of thinking that move them closer to effectiveness as teachers. Further, we still have little data on the relationship of scores on various types of academic tests and teacher effectiveness, with the exception of the Coleman (1966) data on verbal ability. We therefore do not know the degree to which or even whether a particular cutoff score will be beneficial or detrimental to the teaching profession.

In part, these and other faulty assumptions in the research can be traced to two prevalent and competing conceptions of teacher education. While they need not be competing, the ways in which they are elaborated place them at odds, and the ways in which each is elaborated places heavy demands on the teacher education process. These two conceptions are:

1. Teacher education ought to prepare individuals to change and improve education. This view is promoted by many teacher educators who assert that their favorite methods--be these cooperative learning or inquiry approaches--have proven effective and should be practiced by their graduates in American classrooms. They are appalled by the fact that their students may have little opportunity to use these methods in their practice teaching situations, that school situations prohibit their

students from using these methods, and that school personnel do not seem disposed to experiment with them.

2. Teacher education programs should be based on research findings concerning the skills, behaviors, and knowledge exhibited by effective, experienced teachers. These understandings operate as a base from which, using linear backward moves, the paper-and-pencil tests and performance observations of beginning teachers are developed, and the competency goals and tests for preservice programs are established. In some states, teacher education programs are being evaluated on the basis of the degree to which graduates can answer questions related to the findings of studies of effective, experienced teachers.

There are problems with both conceptions as presently articulated. The first conception does not take into account the effects of the environment of the school. Doyle (1977) described the impact of the ecology on both experienced and cooperating teachers, and Copeland (1980) provided some experimental evidence of the impact of the ecology (in this case, student behaviors) on student teachers' and their cooperating teachers' behaviors. It is the ecology, not just the cooperating teacher, that influences both the cooperating and student teachers' behaviors, and this ecological influence is more powerful than any of the college teaching which precedes practice teaching. In fact, Doyle developed a convincing argument that "...it may well be a massive disservice to prescribe for beginning teachers a pattern of behavior which departs radically from that commonly occurring in classrooms...It is quite possible that radically different behaviors have low ecological congruence and would therefore be very difficult to implement in classrooms" (p. 18).

At the same time, the conception of teacher preparation which prescribes the objectives of teacher education on the basis of the skills, attitudes, and behaviors of effective, experienced teachers is also a problem. Recent research has examined differences between beginning and experienced teachers in the ways they process information, the information they seek to process, and the ways in which they prepare for classes. Morine and Vallance (1976) asked 40 experienced teachers about their planning activities and how these differed from beginning teachers' approaches. The experienced teachers responded that beginning teachers would have to approach planning in different ways--particularly with respect to the daily lesson plan. Borko and Niles (forthcoming) also concluded that beginning and experienced teachers have very different needs with respect to planning. Wragg (1980) found that beginning teachers (in this case, practice and first year teachers) have very different information needs than experienced teachers. For example, the beginning teachers stated that they would want to know everything possible about their new students; the experienced teachers stated that they wanted to know as little as possible about their new students, although they might want to take a look at their records after they had gotten to know them. Fogarty, Wang, and Creek (1982) found that beginning teachers are less spontaneous with student responses and are less attuned to classroom clues than experienced teachers, but are more responsive to situations that could disrupt their plans. Erickson (1984) conducted a study of the differences in the classroom phenomena that undergraduate education majors, first-year, and experienced teachers pay attention to in the classroom. Major differences emerged. For example, the inexperienced teachers made fewer connections among aspects of the classroom. Furthermore, their working theories were less differentiated, and they focused on the children with discipline problems and on issues of management rather than on instructional strategies. In this study, the first-year teachers fell in between the inexperienced and experienced teachers in terms of the nature of their attention. Erickson emphasized that while "the experienced teachers' practical ways of seeing and making sense can be characterized as more differentiated and more comprehensive than those of beginning teachers, this does not mean that the experienced teachers' information seeking and decision making necessarily lead to optimally effective judgments about instruction...In short..., it is possible that teachers can be misled by the acquisition of practical wisdom across many years of teaching" (pp. 1-6, 7). This research suggests that beginning teachers think quite differently about students, content, and instruction; therefore, they have very different needs. There may be something of a cognitive developmental process that, with experience, allows teachers to become more efficient and global in their thought processes. Preparing preservice teachers to act as experienced teachers may be futile, and further, may not adequately prepare them for the rigors of the beginning years.

These two conceptions of teacher education could be useful if elaborated in different ways. For example, there is no doubt that teacher education should look toward the experienced, effective teacher as a model for what it is that preservice teachers should eventually become. However, there are a number of steps in between, and the preservice program should help its students through those steps and prepare them for the beginning years. Further, if those who advocate reform of education through preservice teacher education would investigate the characteristics, attitudes, and beliefs of effective teachers, which empower them to experiment and reform in their own classrooms and schools, they could begin to build those ways of thinking into their preservice program objectives.

Future Research

Educational research reflects ways of thinking about educational processes and goals. In this paper, the proposed future research reflects the concepts that preservice teacher education should prepare teachers for their beginning years of teaching and in the thought processes that allow experienced, effective teachers to inquire, experiment, and improve. This list of research topics is not meant to be exhaustive but rather to reflect priorities in each of the categories.

Teachers

Two areas seem of priority. The first would be an examination of the beliefs and thought processes of effective teachers who inquire, experiment, and improve. The hypothesized reason that skills acquired during college pedagogical education do not consistently appear to transfer to field experience is that the ecology of the classroom and school situation affect the behavior of the participants. Further, we know that different teaching behaviors are effective depending upon the context of the classroom (Koehler, 1979). A teacher who inquires, experiments, and improves may also be one who is able to adjust his/her classroom approach depending upon the context. To know how, when, and why teachers do this may be extremely useful information for preservice teacher education. Therefore, the sample of an effective teacher study could consist of a subset of effective teachers, ones who have remained effective in very different contexts.

The second area involves investigations of the processes of teacher development. As described above, some excellent work has begun in this important area, but much more needs to be done. Further, we should investigate variations in beginning teachers' performances as these relate to school and classroom context, to preservice education, and to other important variables such as the presence or absence of intern programs.

Students

The most important issue facing us in teacher education is how we can teach skills, attitudes, and thought processes for which the students do not yet have a perceived need. They do not have structures or schema in which to place much of the pedagogical work they encounter, particularly that related to skills and procedures. Teacher educators are often amazed that students come back and complain that they were never taught how to do certain tasks. The teacher educators can point to their lesson plans and to the amount of time they actually spent with their students on those tasks. At the point the content was covered in class, it was not important to the students, but after they taught for a while, it became important. We must either develop ways of providing students with schema in which to place the various techniques and strategies of teaching such that they will be recalled and used in later teaching, or develop a very different conception of the knowledge and skills to be acquired in preservice preparation. How can this problem be addressed? Many have suggested early field experiences. But as Feiman-Nemser and Buchman (1983) have argued, experience alone is not necessarily a good teacher. More work is needed which describes the cognitive schema acquired and used by preservice students as they pass through teacher education programs.

Teacher Educators

In large part, teacher educators, particularly clinical supervisors, see themselves as professional teachers, not as scholars or researchers. This means that they are similar to the teachers that Doyle and Ponder (1976) investigated in terms of their practicality ethic, individualism, and immediacy. They undoubtedly are actors in the "crisis of confidence" in professional knowledge which Schon (1983) describes for all professions since the mid-1960s. He states that the "complexity, uncertainty, instability, uniqueness, and value conflicts" that are increasingly perceived by professionals as central to their practice make the solution to individual problems through the application of professional knowledge or "theory" impossible. In Koehler's (1984) study, the university supervisors relied completely on practical experience gained primarily from past experience as teachers and supervisors rather than from research.

Several methods of improving the performance of teacher educators have been proposed, such as research dissemination and staff development. The research and improvement community has stated over and over again that we must "get" the research on teaching and learning into the heads of teacher educators, but the form in which research is delivered is probably not useful. Fenstermacher (forthcoming) describes the difference between research and practical knowledge and how research can be used in the elaboration of practical knowledge. Research, therefore, is required on the content of teacher educators' practical knowledge to help determine the types of research and the forms in which it should be presented to allow teacher educators to incorporate that research into their practical knowledge and actions.

Courses/Methods/Programs

The emphasis on improving teaching through teacher education has been elaborated in the teaching of skills, methods, and strategies that are thought to be better than prevailing practice. However, there appears to be little transfer from these courses to the field. One problem is that we know little of what is going on in the classes. Feiman-Nemser and Buchman (1983) are conducting a longitudinal study of students passing through several types of programs at Michigan State University, and extensive descriptions of the programs and classes themselves have been maintained. And Sears (1984) has produced an important ethnography of a teacher education program which described the perceptions of students as they passed through the program. The study provides valuable insight into the attitudes of the students toward the goals of teacher education and how these are at odds with those of the teacher educators. Descriptions of what is actually going on in teacher education classes are rare. Perhaps there is more of a relationship between teacher preparation and eventual teacher behavior than we have been led to understand. We need careful descriptions of program, method, and classroom processes and their effects on students before attempting to significantly alter existing practice.

Institutions

Though many have called for changes in schools of education that would create professional schools in the graduate programs, few have looked at the potential effects of such a program on faculty and on undergraduate preservice programs. As noted above, the preservice faculty members feel that they serve their institutions as teachers, primarily, rather than as scholars or researchers. Further, their time is called for as teachers; their students need much more clinical feedback by professional teacher educators than they are receiving. And yet, the teacher educators are in institutions which reward faculty members for scholarship and published research. These competing demands are placing extensive pressure on teacher educators, who are already spending more time with students than are other types of faculty members. Perhaps we should begin to think about a professional school for the preparation of teachers which involves scholars/teachers in the undergraduate programs. These faculty members would be rewarded for their approach to their subject matter and to teaching. They should remain up to date on research and practice but not necessarily be required to publish in order to be promoted and receive higher salaries. Work is needed on the criteria which should be used for promotion in such schools and on the potential for changing these criteria within a university community.

Conclusion

It has been argued in this paper that the research on preservice teacher education is closely tied to two inappropriate elaborations of conceptions of teacher education. Further, the research reflects extremely small amounts of support and is therefore fragmented, particularistic, and often cuts corners. Nonetheless, it has provided the basis for a number of important reviews which speak to practice as well as further research. Research based on different conceptions of teacher education, with adequate support, will be extremely useful in the improvement of teacher education. What is needed, therefore, is more work on conceptualizing the relationship between teacher preparation and teaching practice in order to provide goals and objectives which are possible to attain and have the potential to improve teaching. Furthermore, we need research conducted within those frameworks which will help us understand the processes and potential for improvement.

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THE PRACTICE OF PRESERVICE TEACHER EDUCATION

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Three years ago, public education was the best-kept secret in America; two years ago teacher education was. Last year, education was spotlighted; this year, teacher education finds itself in that same bright light.

We have been there before. Each new generation of Americans seems destined to discover that its children are receiving a less than perfect education. The first step in the discovery process is for persons over 40 to note that persons under 20 are behaving like a bunch of adolescents and to realize that someone must be to blame for this deplorable condition. Because it cannot be the parents who have failed their children, it must be the schools. The next step in this analysis is for the over-40s to compare the education their children are being given with the education that they received. The result of this process is to find the present schools inadequate, else why would the children be so dumb and wicked? (One is tempted to speculate that if education has deteriorated as much with each new generation as critics suggest, our great, great, great grandparents failed to benefit from their schools as they should have. If they had done so, we would be living in a perfect society by now.)

The second step in each generation's study of its schools is to discover that, with a few minor adjustments, the schools can be made perfect. (The real tragedy of our present circumstance is that although many of our schools are very good, even the best can improve; yet many of us are willing to recognize only that our schools are good. We are unwilling to see that even the best could be better.) Along with the discovery of mere semiperfection in the schools is the related finding that the reason they are less than perfect is that teacher education is bad. The faculty who manage teacher education are "out of touch with the real world." They admit only dull normal failures to their programs, feed them Mickey Mouse courses, and turn them over to the schools as a group of shallow incompetents for the student teaching experience.

America is now in step two of its 1980s educational introspection--the schools are not as bad as we thought they were last year. In fact, 202 high schools border on perfection; the federal government has told us so. But teacher education is another story. It is horrible, perhaps even worse than the schools were last year, and it is with this recognition that we must once more attempt to improve teacher education, just as we did 20 years ago. Keeping this public perception in mind, let's look at what teacher education is, what our critics say they would like teacher education to be, and what models of teacher education are being developed.

What Teacher Education Is

Teacher education is provided by more than 1,200 colleges and universities; fewer than half have national accreditation but all have at least implicit state approval (Egbert, 1984). These colleges and universities prepare approximately 140,000 new teachers each year, down from more than 300,000 in the early 1970s. More than 60% of the colleges and universities that prepare teachers are privately controlled, and more than 40% offer the baccalaureate as the highest degree. In institutions that offer only a bachelors degree, 6 is the median size of the teacher education faculty; in those that offer the doctorate, the median size of the education faculty is 72 (Heald, 1983).

Teacher education is usually viewed as a low-cost program (Peseau & Orr, 1980). For example, teacher education traditionally has not required a large equipment outlay like engineering, nor has it demanded an extensive, separate curriculum (at least for secondary teachers), nor has it insisted on the detailed studio and laboratory work of architecture or the clinical supervision of social work. In fact, from 60% to 80% of a prospective teacher's program is taken in classes with non-teacher-education students, and an additional 5% to 12% consists of student teaching in a school setting in which the primary professional contact is with the classroom teacher. Thus, for a very modest investment, almost any college can establish and operate a teacher education program. Even some very large universities have staffed their undergraduate courses and field supervision mostly with graduate students and allowed their professors to teach graduate students and do research.

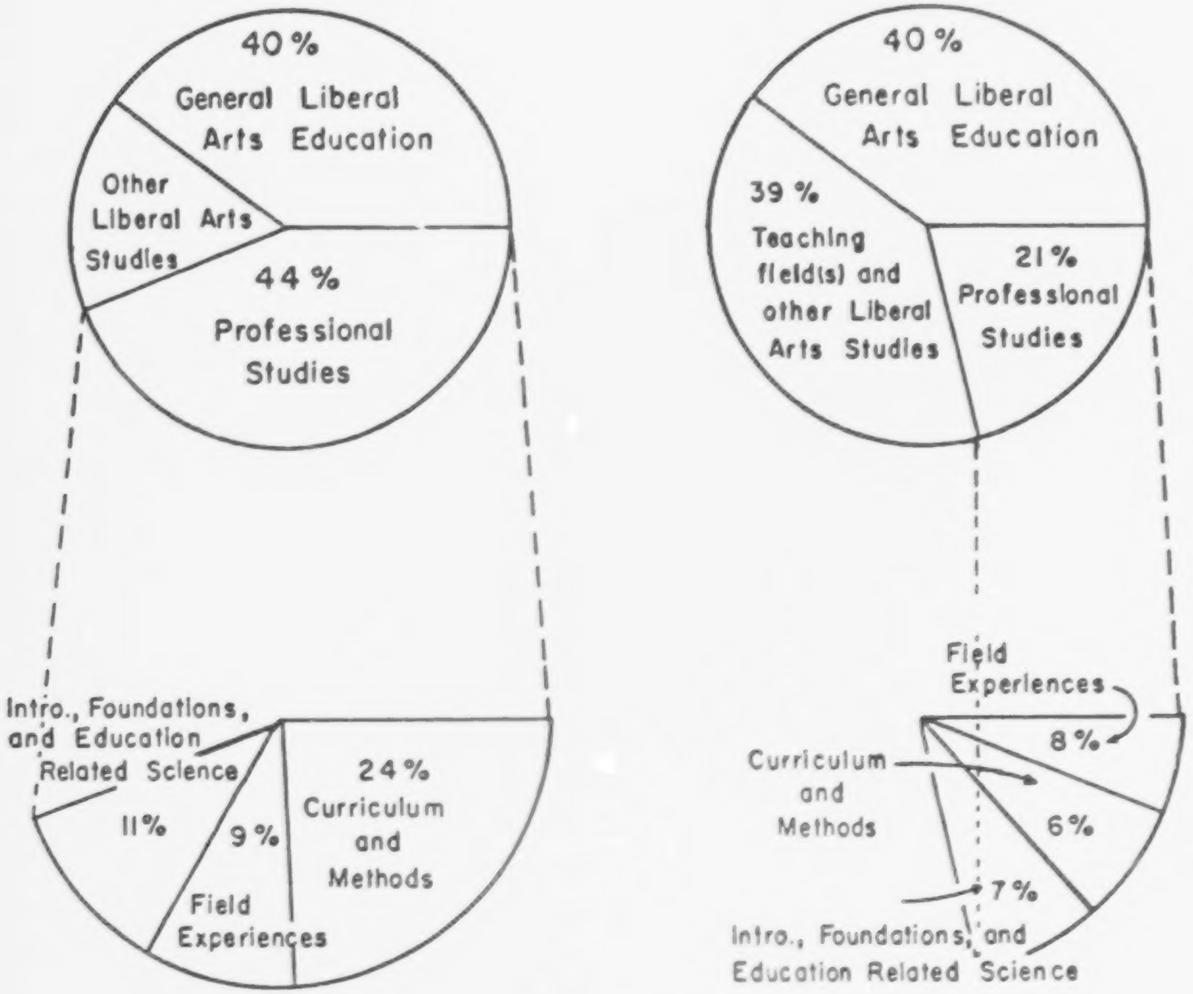
The administrative unit responsible for teacher education may be a division, department, school or college, or simply a couple of faculty members assigned to teach education courses and supervise student teachers. Those responsible for the preparation of teachers in a given college or university may have almost total control over admission, retention, and graduation as well as course and program content and instruction, or they may have, at best, some minor influence over one of these elements.

The state may prescribe both the courses and the course content of teacher education programs; it may specify the knowledge and skills that teachers must possess to qualify for a given certificate or endorsement; or it may give almost blanket authorization for any institution of higher education to offer any program that it chooses to design and call teacher education. A given program for the preparation of teachers may or may not have a course in educational philosophy, educational history, educational psychology, or human development. It may or may not require a general methods course or one or more special methods courses. Just about the only givens are at least one course in methods and some classroom experience.

In short, teacher education is highly varied. It is just about whatever the state or the faculty defines it as being. Nevertheless, there are some similarities and "averages" among programs that are worth noting, if only because the actual averages are so unlike what many persons outside of education believe them to be.

The education that a prospective teacher receives may be thought of as existing in three parts: (1) a general liberal arts education, (2) major and minor fields or areas of specialization, and (3) a professional education, including a field experience (Figure 1). From studying the college/university bulletins and program descriptions of a stratified sample of 40 institutions preparing teachers, Kluender and Egbert (1983) found that the general liberal arts portion of the program (mathematics and natural science, social science, humanities and fine arts, composition and speech communications, and physical education), which is similar to that taken by other students at the college or university, typically constitutes about 40% of the total elementary or secondary teacher education program.

Although the liberal arts requirement is usually almost identical for elementary and secondary students, the remainder of the program is quite different because the work of the secondary teacher is viewed as being different from that of the elementary teacher. The secondary teacher is considered to be a subject matter specialist--a mathematician, historian, or scientist as well as a teacher;



Elementary

Secondary

Figure I. Graphic Representation of College Programs for Elementary and Secondary Teachers

(Egbert, 1984)

whereas the elementary teacher is usually a subject matter generalist as well as a teacher. Because the preparation of secondary teachers is built on the assumption of specialization, the coursework of prospective secondary teachers, in addition to general liberal arts education, includes an academic major in the subject matter that will be taught as well as a professional education component. The teaching subject specialization is usually somewhat greater than the professional education requirement but may range from as little as 25% to as much as 60% of the entire program, depending on the teaching field and the state or college/university certification or program requirements.

Because most elementary schools in the United States have self-contained classrooms, their teachers must teach reading, arithmetic, spelling, science, social studies, handwriting, and sometimes music, art, and physical education. Because elementary teachers must usually be prepared to instruct the full range of subject matter taught in the elementary school, teacher education programs provide for diversity of content and methods. Usually prospective elementary teachers take courses in the content and methods of elementary school reading, mathematics, science, social studies, and a variety of other subject areas. Although these courses frequently carry the label Methods of..., they actually describe the curriculum content as well as appropriate methods for teaching that content, and they show how these are related both to each other and to the child's development.

Professional education studies, sometimes referred to as teacher education, may be subdivided into three parts: (1) foundations and education-related science, (2) curriculum and methods, and (3) field experience, including student teaching. Foundations and education-related science include such courses as educational philosophy, educational psychology, and human development. For the typical elementary education student, Kluender and Egbert found that this component constitutes about 11% of the college program; for the typical secondary student, about 7%. Curriculum and methods include general and special courses in curriculum and methods. In their sample, Kluender and Egbert also counted in this category courses taught in liberal arts departments but required for education majors (e.g., mathematics for elementary teachers), unless such courses were part of the general education requirement. For elementary students, this component is about one-fourth of the total program; for secondary students, about 6%. Field experiences consist of student teaching plus other activities for which students receive separate credit. In the Kluender and Egbert sample, this component is just under one-tenth of the total program for both elementary and secondary students. This category is qualified with the statement "for which the student receives separate credit" because many courses in the usual teacher education program require field work but do not give separate credit for it. In their sample, Kluender and Egbert found that, according to catalogue descriptions, 34% of the human development and educational psychology courses, 41% of the reading methods courses, 38% of the social studies methods courses, and 45% of the foundations and introduction courses required a field experience. Thus, the actual field-experience requirement may be well over 10% of the total number of credit hours.

Heald (1983) has provided a different report of the field-work requirement for elementary and secondary students in various categories of colleges and universities that offer teacher education programs. According to Heald's data, students must typically complete about 30 hours of clinical experience before being admitted to teacher education, and they must complete from approximately 50 to 100 additional hours before being permitted to enroll in student teaching. The requirement tends to be somewhat higher for elementary than for secondary students and for non-land-grant public and private institutions than other institutions. The student teaching requirement averages about 300 clock hours and is also somewhat higher for non-land-grant public colleges than it is for others. Based on earlier studies of field experiences (Johnson, 1968), this component of professional education has grown from a total of approximately 280 clock hours to almost 420 hours today.

What Critics Would Like Teacher Education To Be

Like other professions, teacher education is criticized both from the outside and the inside; and, like other professions, teacher education has both responsible critics and carpetbaggers--those who see a chance for a fast buck. Even responsible critics sometimes act either on misinformation or in the absence of information. Because of the differences among critics, it is important that teacher education not respond to all critics in the same manner.

Critics from the Outside

Education and teacher education are experiencing their second generation of serious critics in this half century. Concerted criticism of education began in the late 1950s and continued into the 1960s. Among the well known publications from those years were Koerner's The Miseducation of American Teachers and Conant's The Education of American Teachers, both published in 1963. Koerner's book was replete with comments like "The inferior intellectual quality of the Education faculty is the fundamental limitation of the field, and will remain so, in my judgment, for some time to come" (p. 17), "Course work in Education deserves its ill-repute. It is most often puerile, repetitious, dull, and ambiguous--incontestably. Two factors make it this way: the limitations of the instructor, and the limitations of subject-matter that has been remorselessly fragmented, sub-divided, and inflated, and that in many cases was not adequate to its uninflated state" (p. 18), and "Educationists even find it difficult to communicate anything important to one another, for it is not easy to express ideas in Educanto. Despite its ludicrous excesses, Educanto is a deadly serious phenomenon: it masks a lack of thought, and repels any educated mind that happens upon it" (p. 21).

Conant (1963) was much more evenhanded in his analyses and comments. For example, he recommended that "the professor from the college or university who is to supervise and assess the practice teaching should have had much practical experience. His status should be analogous to that of a clinical professor in certain medical schools" (p.143), and that "all future elementary teachers should engage in practice teaching for a period of at least eight weeks, spending a minimum of three hours a day in the classroom; the period must include at least three weeks of full responsibility for the classroom under the direction of a cooperating teacher and the supervision of a clinical professor" (p. 215).

Like James Koerner a generation ago, Newsweek (1984) recently could not resist taking potshots at teacher education: "Teacher training is perhaps the biggest running joke in higher education" (p. 64); "While the course work may be easy, it is also too often irrelevant" (p. 65); and "If Rodney Dangerfield were an educator he might describe his affliction as 'congenital prestige deprivation'--the academic world's windy term for the profound lack of respect for teachers that now bedevils American education" (p. 70).

Like Conant's work, most of the reports on education coming out today have suggestions for teacher education. Unlike Conant, some of those who prepared the reports of the 1980s seem unfamiliar with teacher education. For example, A Nation at Risk includes the finding that "the teacher preparation curriculum is weighted heavily with courses in 'educational methods' at the expense of courses in subjects to be taught." Because this report was directed toward secondary schools, it must be assumed that this comment concerns secondary teacher education programs, yet programs for the preparation of secondary teachers average fewer than 5 credit hours in general and special methods. If courses in curriculum, reading methods for secondary teachers, media, seminars, and special education are added to general and special methods courses, secondary programs still average fewer than 8 semester hours of the typical 125-hour total.

On the other hand, several reports written by nonteacher educators parallel those by people within the profession. Recommendations made in recent reports include requiring high school teachers to have an academic major (Boyer, 1983), placing teacher education programs at the graduate level (Adler, 1982), strengthening pedagogic skills (Sanders, 1983), and establishing 5-year teacher education programs (Boyer). These recommendations are not unlike some that have been made by teacher educators.

Critics from the Inside

Within the past several years, a number of persons prominently associated with teacher education have made serious extensive proposals for reforming teacher education. I have chosen to discuss four of these proposals made by inside critics: the report of the Bicentennial Commission on Education for the Profession of Teaching (Howsam, Corrigan, Denemark & Nash, 1976), the 19th Annual Charles W. Hunt Lecture (Cremin, 1978), A Design for a School of Pedagogy (Smith, 1980), and a recent paper by Joyce and Clift (1984).

Although all four of these reports consist largely of proposals for the reform of teacher education, the specific tasks addressed by the authors are quite different. Cremin's task was to deliver a distinguished lecture to teacher educators; Howsam's was to prepare an action agenda for that same group. Smith was given a book-long opportunity to describe a design for a school of pedagogy. Joyce and Clift had 14 pages in the official organ of the American Educational Research Association in which to recommend substance and procedures for reform in teacher education. The products of these dissimilar tasks are very different in their appearance; that is to be expected. However, there are some similarities among the reports in content and recommendations. It is because of this mixture of differences and similarities that I chose to discuss these particular papers. Instead of working in detail with the more complex issues discussed in the papers, I will summarize and compare the proposals in terms of six relatively simple dimensions: program level, program length, number of institutions, funding level, certification, and curriculum.

The positions taken by the four reports on the six dimensions are shown in Table 1. All four of these reports recommend a program that extends beyond the baccalaureate. The Howsam and Cremin reports recommend a combined undergraduate/graduate program, and the Smith and Joyce reports recommend a 2-year graduate program of teacher education. In his Hunt lecture, Cremin suggests that students begin their teacher education programs during their undergraduate years and then add two years of graduate study, earning both the B.A. and the Ed.D. degree at the end of the sixth year, similar to B.S.-M.D. programs at Northwestern University and Boston University.

Each of the four reports has either explicit or implicit implications for the sorts of institutions that should prepare teachers. Joyce and Clift maintain that only those institutions that have active research programs and that can transmit both research information and the research ethic should prepare teachers. They suggest that 200 to 300 colleges and universities may be qualified. Smith says that "the number of schools offering programs in pedagogical education must be radically reduced. Many of them have neither the resources nor the staff to meet the requirements of existing programs let alone an effective clinical program" (Smith, 1980, p. 111). Howsam says that only those institutions willing to provide adequate support should have teacher education programs. Although Cremin does not comment on this issue directly, the program he recommends clearly would dramatically reduce the number of institutions that prepare teachers.

Neither Cremin nor Joyce and Clift talk about funding level; Howsam says that teacher education should be funded at a level equal to other professions. Smith states that a faculty/student ratio of no less than 1:10 is essential for the sort of clinical training programs that he describes.

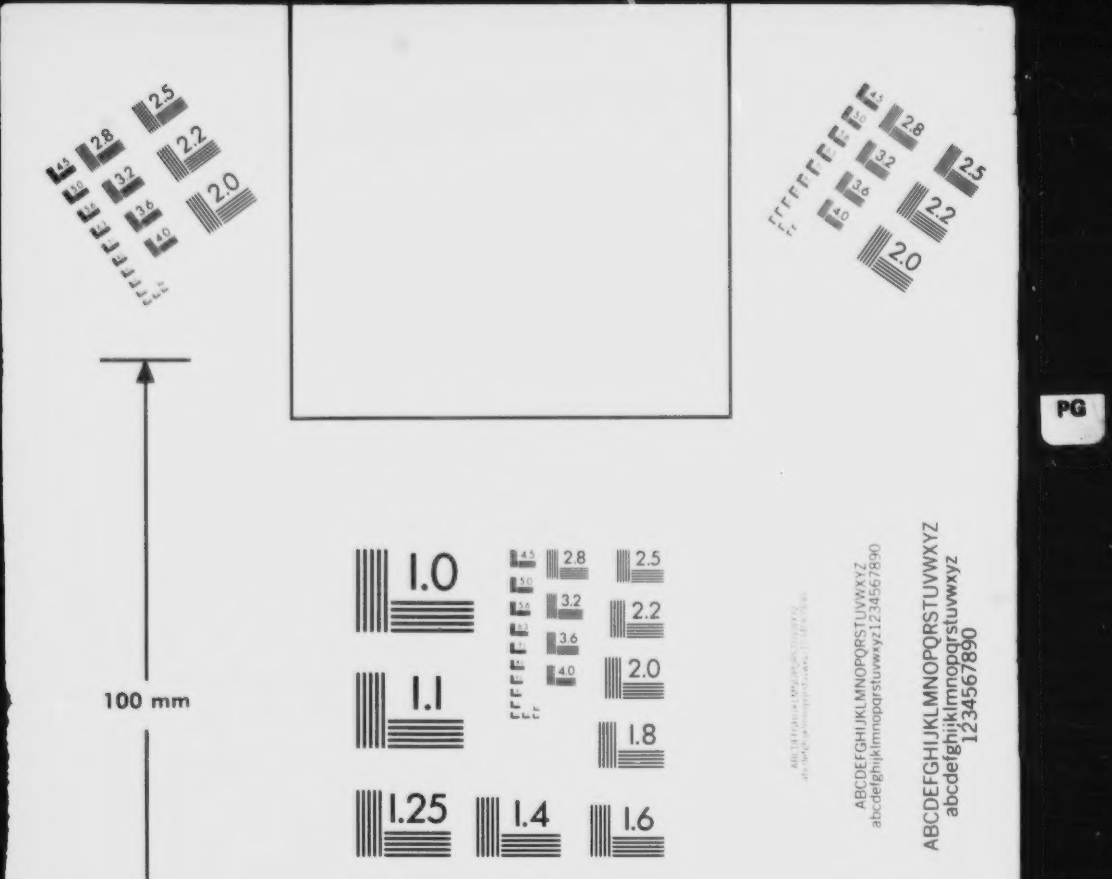
Cremin does not discuss certification; but both Howsam, Joyce, and Clift say that certification should not be permanent. Although Smith does not discuss the permanency of certification, he says that certification should be based on tests and performance.

All four reports give a great deal of attention to the curriculum, but each one does it in a manner consistent with the report's own length and form. Cremin talks in broad conceptual terms about a present-day reformulation of James Earl Russell's four components: general culture, special scholarship, professional knowledge, and technical skill. Howsam and his colleagues make a set of seven

Table 1

Four Proposals for Teacher Education Reform

	Proposals			
Dimension	Howsam, et al. (1976)	Cremin (1978)	Smith (1980)	Joyce & Clift (1984)
Program level	Undergraduate/ Graduate	Undergraduate/ Graduate	Graduate	Graduate
Program length	5 years	6 years	2 years	2 years
Number of institutions	Only those willing to provide adequate support		Reduce radically	200-300
Funding level	Equal to other professions		Faculty/ student ratio 1:10	
Certification	Not permanent		Examination	Never permanent
Curriculum	Principles	General description	Detailed description	9 propositions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recommendations related to "the major components in the education of teachers," and Joyce and Clift describe nine curricular propositions. In two chapters, Smith outlines preprofessional education and a program of pedagogical education, and he then devotes six chapters to a description and discussion of pedagogical knowledge.

Although a detailed comparison of the programmatic perspectives of these four inside critics of contemporary teacher education is beyond the scope of this paper, such a task could be both interesting and productive. Certainly, the images that came to my mind as I mulled over the four reports were quite different.

Some Developing Models of Teacher Education

Some people criticize, evaluate, and recommend; other people do. Teacher educators and their critics are no exception. Some teacher educators think, write, evaluate, and recommend; others design and operate programs. In no way am I suggesting that Howsam, Smith, Cremin, Joyce and Clift, and their colleagues fall in the nondoer group. This select group have been doers as well as thinkers. They have earned the right to criticize, evaluate, and recommend. Others among the inside critics of teacher education have more questionable credentials . And, for the most part, the activities of external critics of teacher education have been limited to reporting and criticizing. To be sure, thinking, writing, reporting, evaluating, and criticizing are valuable activities, but neither individually nor collectively are they acceptable substitutes for doing.

Fortunately, during the period since the release of the Bicentennial Commission's report, a number of teacher educators have proved themselves to be doers. I refer to the group of educators who have designed and begun the operation of novel programs. Perhaps their programs are imperfect; indeed, some of them may have failed. But they have been willing to pioneer, to lead the way. I will briefly describe two of the programs that have built upon ideas formulated by the Bicentennial Commission and others, the programs at the University of New Hampshire and the University of Kansas.

University of New Hampshire Program

Following a 4-year planning effort that included students, teachers, administrators, SDE representatives, and college-based educators, the University of New Hampshire in 1974 introduced a 5-year teacher education program that begins in the undergraduate years and continues through a year of graduate study. The program has three central objectives: "to develop cooperative and parity relationships between professionals in the field and college based teacher educators; to prepare teachers with effective personal teaching styles; and to prepare teachers who could act as leaders in the school and classroom, exhibiting self-improvement skills, helping colleagues improve, and initiating appropriate curriculum change" (Andrew, 1981, p. 40). The 3-phase program typically begins in the sophomore year, combines course work and field experiences including early participation rather than observation, draws heavily on the service of experienced teachers, is flexible and adapted to the needs and interests of individual students, and is very selective--about one half of the students elect or are advised not to continue beyond phase one. Over the course of the program, students entering the graduate year have earned grade point averages of about 3.1 on a 4.0 scale. The average combined verbal and quantitative score on the GRE has been 1029, and approximately 40% of those admitted to the 5-year program have been honor students. Furthermore, more than 90% of the program graduates have secured teaching jobs in their first year, apparently because of their superior preparation and their strong commitment to teaching (Andrew, 1983).

The New Hampshire program is expensive for both the students and the university. Classes are kept very small, the average size being about 15. The internship, too, is labor-intensive. It is also noteworthy that the number of teacher education graduates has dropped nearly 60%, thus lowering the demand for faculty (Andrew, 1981).

University of Kansas Program

The University of Kansas began talking about an extended program of teacher education in the late 1970s; by July 1980, the program was sufficiently well developed for adoption by the faculty. The first students were admitted in 1981 and are now in their fourth year; they will graduate in the spring of 1986.

To develop its new program, Kansas identified a nucleus of faculty members interested in being involved in the process. They worked to build general faculty support, assess placement and salary opportunities for graduates, gain support from off-campus professional colleagues and university administration, and assess the reaction of statewide bodies having control over teacher education. By the time the first students were admitted, much of the necessary support had been engendered.

Early in the development process, the planning committee began the design process by focusing on the scope and sequence of field experiences suggested by the program objectives. This decision permitted the group to separate itself more easily from the traditional program. The committee identified specific field experiences for each year or stage of the program. Once the scope and sequence of the field experiences had been described, the group decided on the content and activities of the on-campus component as determined by the field experiences (Scannell & Guenther, 1981).

As adopted, the Kansas program consists of 60 semester hours of general education, 40 hours in the subject matter specialty, and 62 hours of professional education. Students qualify for certificates at two of the three levels granted in Kansas--elementary, middle, and secondary education.

Because of the general downward trend in enrollment at the time Kansas introduced its extended program, it is impossible to determine the precise effect the new program has had on enrollment in teacher education. However, it does appear that there has been some negative impact. On the other hand, it now seems possible that a larger percent of those completing the program will enter the teaching profession. Kansas has recently completed a 5-year review of teacher education. The review team viewed the university's program as worth nurturing and evaluating. The team added that if the program proves as successful as appears to be the case, the state should consider extending it to other institutions (Scannell, 1984).

From these brief descriptions, it is clear that these two programs have a number of characteristics in common. Extensive planning preceded the introduction of each program, and both programs involved teacher educators, teachers, administrators, students, and lay people in the planning. Each university has made a serious attempt to integrate the classroom and field experience portions of the program. Both programs are five years in length, and each has high standards and expectations. Both experienced some initial decrease in enrollment. And in both instances, those responsible for the program are quite pleased with the current status.

Other Programs

Although there is not space to describe them here, those interested in exploring new teacher education programs should become acquainted with the programs at Grambling State University (Mills, 1984) and Doane College (Dudley, 1983). Each of these programs has been developed at considerable cost both to their institutions and to the individual faculty members who developed them. But each program offers substantial promise, not only for its institution but for other categories of institutions, as well.

Where Do We Go From Here?

Our profession has had to deal with several extreme circumstances during the time that most of us have been teacher educators. Many of us have lived through the paranoia created by our country's international competition in the late 1950s and early 1960s, the rise and fall in numbers of school children and youth between 1950 and 1980 and the related changing demands on teacher education, and, still more recently, apathy toward our schools followed by attacks on education and teacher education.

Our greatest concern now should not be with those who feel that education is unimportant. Our biggest danger is that we will be forced--or seduced--by governors, legislatures, departments of education, and public opinion to substitute test scores for serious evaluation of our students, course credits for program rigor, and teaching apprenticeships for clinical programs of teacher education.

It is one thing for governors and state legislators to suppose that the simple addition of two or three courses and a year of largely unsupervised teaching to an arts and sciences baccalaureate degree is equivalent to the extended programs at the University of Kansas, the University of New Hampshire, and Doane College. It is quite another thing for colleges and universities to accede to demands for such caricatures. Yet this capitulation is happening, and all of us are to some degree at fault. We teacher educators are at fault for offering programs that have little substance and less rigor, for graduating students without being sure that they can teach, for failing to incorporate the developing information bases into our programs, for failing to demand the resources that we must have to produce educated teachers, and for failing to speak out against even the worst teacher education programs. Our presidents, our liberal arts colleagues, and our regents are also culpable. They have continued to criticize teachers and teacher education programs, all the while refusing us the resources we need to prepare teachers who are qualified to teach. Governors and state legislatures are guilty of failing to provide essential resources and of failing to value teacher education as they do engineering, agriculture, and architecture. State education departments are not blameless; for years they have been approving programs that they knew were not preparing competent teachers.

There is guilt enough to go around and no one is more aware of that than we in teacher education, but the time has come when we must put all of that behind us. We must work together to develop better programs and to be more demanding of ourselves and our students. We must also be willing to "tell it like it is," to tell the public and our presidents what we need in order to do our work as we must, and to be as forthright and demanding of our colleagues as we are of ourselves.

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THE IMPORTANCE OF THE ACCREDITATION PROCESS TO AMERICAN EDUCATION: A POLICY STATEMENT

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This paper is concerned with the place and appropriate future of national accreditation, and its relationship to American education. It is born of my participation for nearly 15 years in national accreditation activities through the practices and procedures of the National Council for Accreditation of Teacher Education (NCATE). I have viewed the accreditation process from the perspectives of both private and public universities. I have been an administrative officer in higher education in two institutions applying for national accreditation--one for initial accreditation and another for reaccreditation. I have also served in many roles with the National Council for Accreditation of Teacher Education. The purpose of this paper is to (1) draw from five key documents elements of agreement on national accreditation that have been published recently by various constituents of education, (2) identify program evaluation and accreditation qualities that can serve as a value base to effectively undergird future national accreditation, and (3) identify tentative policy implications for national accreditation.

To Become More Effective in National Accreditation Through Monitoring Educational Policy

I would like to bring attention to five key documents most relevant to the process of policy development for national accreditation in American education. The first document, published by the National Education Association, is entitled Excellence in Our Schools, Teacher Education, an Action Plan. The second is an NCATE-redesign document created by the American Association of Colleges for Teacher Education, entitled, A Proposed Accreditation System, an Alternative to the Current NCATE System. The third is A Report to the Association of Colleges and Schools of Education in State Universities and Land Grant Colleges and

Affiliated Private Universities, published in October 1983 by the Task Force on Accreditation. The fourth, a report submitted in October 1984 by a task force of the Council of Chief State School Officers, is entitled *Staffing the Nation's Schools: A National Emergency*. And fifth, a document that I am sure you have heard much about is *The Making of a Teacher, a Report on Teacher Education and Certification* (1984) by Emily Feistritzer of the National Center of Education Information. These five documents have direct policy implications and make resoundingly loud comments about the issues of national accreditation from the standpoint of quality as well as of program approval and state certification.

I'd like to state some personal assumptions about what I think should undergird policy development in national accreditation. The first assumption is that all teacher education programs can be improved. In order to translate this assumption into behavior, we need to keep the NCATE constantly active in setting and clarifying standards of quality in teacher education. We need to see that the NCATE has the best quality membership from our constituency and uses the best advice in making judgments regarding cases and we need to see that the NCATE continues to develop procedures and processes sensitive to clients and implements them effectively. From the point of view of education institutions, this assumption should result in each school's feeling valued and validated and feeling that it has been helped, or in some cases, that it has been constructively redirected out of the field of teacher education.

The second assumption is that although perceptions differ about quality in teacher preparation, consensus can be achieved. This developmental assumption requires the NCATE to engage in continual dialogue. More and more, education institutions will have to join in the quantitative documentation of quality and help define the evidence demonstrating quality.

My third assumption is that external review must be discriminating and helpful. The NCATE must constantly look at feedback from its teams, its chairs, and its institutions; must be judicious in its judgment and firm in its findings; and must tenaciously support a clean, effective appeals process. As a result of external review, institutions should see themselves as being helped.

The fourth assumption is that voluntary accreditation must be respected for its process and standards and must be grounded in state-of-the-art evaluation techniques. All of the tasks of the NCATE and the institutions that we have already mentioned come together here.

The last assumption concerns an appropriate role for state and national accreditation. Institutions and constituent groups must help build and understand the balance between state approval systems and a national accrediting system.

These five premises will guide my activities with the NCATE, and, I hope, will undergrid the NCATE's work over the next 10 years. With these thoughts in mind, I think that future policy development for accreditation should work toward improving the quality of preparation programs and protecting consumers, with the understanding that consumers include schools, parents, and citizens as well as teacher education candidates.

It is important for a national accreditation system to be supported by the education profession and have the profession's direct involvement. This requirement is echoed clearly in the statements of the National Education Association (1982), which calls for both state and NCATE approval to insure that teacher education programs will be evaluated at the appropriate level of specificity.

Presently, the commitment of these major organizations to national accreditation should be viewed against the backdrop of emerging state-level documents such as the recent report of the Council of Chief State School Officers (1984). This report, which was endorsed by the full NCATE in November 1984, contains a rather extensive set of research recommendations directly tied to accreditation and certification. Lately, the chief state school officers and the deans of education have been considering the issue of national accreditation and its relationship to state approval. I hope that policy development over the next three years will begin to address these areas.

I cite just two recommendations from the chief state school officers:

> Research ought to be done to generate more effective measures for selecting persons into programs of teacher education and in determining what criteria are appropriate for the selection of teaching candidates. (p. 44)
>
> Research needs to be conducted by institutions of higher education on how graduates performed after leaving their teacher preparation programs. (p. 9)

Both of these research agenda are key parts of the current redesign efforts of the NCATE. My anticipation is that the new NCATE standards will require a basic skills test as part of all nationally accredited programs. And I would also anticipate that competence in subject matter and pedagogy tests at the completions of programs may well be part of the future NCATE standards.

Program Development and Evaluation

I believe that national accreditation must take a leadership role in the future development of systematic evaluation. Drawing from the dialogical beliefs of Paulo Friere (1970), it is necessary for the constituents of the NCATE to collaborate accurately describing the current practices and the movement for change. Six major principles of redesign have been postulated by the NCATE: (1) a unit focus; (2) standards based on research knowledge; (3) an increased data base to support continued accreditation; (4) the use of a small, well-trained, expert board of examiners; (5) an enlarged annual report containing more data on institutions; and (6) better articulation between state program approval and national accreditation. In order to develop these, effective quality-oriented evaluation and accreditation systems must operate from values such as the following.

1. *Helpful*. Systems must be helpful to consumers, to agencies, and to constituents of each of the member and sponsoring units as well as to the institution where the evaluation occurs.

2. *Holistic*. Hard and soft data should be gathered in a comprehensive and systematic way.

3. *Future-oriented*. The process of accreditation should constantly build toward more effective futures for schools, colleges and departments of education, practitioners, specialty groups, and consumers.

4. *Nonoppressive*. Good program evaluation, as good accreditation evaluation, should operate in a way that reduces the oppressive nature of implementation and administrative activities. Procedures and processes should be developed for more effective teams and leadership.

5. *Clear and consistent*. Understanding the standards and standardizing their application will need to be a constant effort.

Policy Implications

Although Emily Feistritzer's (1984) recommendations may be a bit overstated, her recognition of a need for national standards for certifying teachers lays the foundation for a better articulation between unit accreditation and state program approval. The NCATE posture toward the future development of this necessary balance seems to be based on a clear distinction between state program approval and accreditation.

State program approval derives from the state's legal responsibility for education and its obligation to protect its citizens from inadequate professional programs and/or preparation units within colleges and universities. Its purpose is to insure that persons certified by the state have completed adequate preparation programs. The standards are those the state sets as the minimum it will accept. Since most states control and conduct approval efforts, the standards and procedures used are continuously shaped by persons within the state.

Governmental activity focuses on developing and maintaining standards that all professional education programs or institutions must meet in order for their graduates to be eligible for certification (as presented in American Association of Colleges for Teacher Education, 1983). National accreditation is meant to uphold standards of excellence in the national intent, standards that define a consistent, high level of educational quality across the 50 states. Preparation units within colleges and universities enter into accreditation as a means of demonstrating and promoting education quality, institutional integrity, and professional commitment. Accreditation is governed and directed by an independent agency supported by and responsible to the preparation institutions and the practicing profession. Accreditation standards and procedures are established, revised, and updated by a process which involves representatives of the stakeholder organizations of the NCATE. The resultant standards reflect nationally accepted criteria based upon research and recognized professional "best judgment," Thus, the fundamental distinction between approval and accreditation lies in their respective purposes. While approval is concerned with the maintenance of acceptable standards for operation within the states, accreditation concentrates on upholding national quality standards.

Policymakers interested in teacher education, accreditation, and certification will be challenged to ground their future policies in solid history, correct methodological ideology, trust, and cooperative problem solving among all agencies. It is to this end that the National Council of Accreditation for Teacher Education is redesigning itself to be a more effective vehicle for accreditation and a force in the improvement of American education.

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CONTRASTING VIEWS OF TEACHER EDUCATION: AN IMPEDIMENT TO REFORM

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Policymaking and Teacher Education

Teacher education is viewed by most policymakers as an instrument to affect change in the educational system. Various governing bodies have invested resources in teacher education in order to produce both quality teachers and research findings. Such knowledge and personnel are believed to be essential in improving schools. Consequently, teacher education has been an arena for policy intervention.

Other policymakers have seen teacher education as remote from school reform. Dissatisfaction with schools, a decade of teacher surpluses, and ambivalence or lack of awareness about process-product research have created an environment of benign neglect toward teacher education. Also, the distance between public policymakers--legislators and board members--and teacher education programs has thwarted other policy interventions by those who have sought school reform.

Adding to the latter problem is the widely held perception among many policymakers that teacher education is deficient. They have enacted policies for the purpose of improving teacher education programs and producing quality teachers to staff the nation's schools. However, when policymakers assess the success of their policy interventions, they generally conclude that programs of teacher preparation have failed because they see many schools and teachers as having failed.

Determining whether schools have failed is an important beginning point. Whether the failure of schools is as pervasive as some would have us believe has been the focus of the school reform debate of the past year. Whether the shortcomings of teachers and schools are attributable to their preparation or to other problems and conditions in schools is important to determine. Unfortunately, most policymakers have a very limited view of teacher education. They make assumptions and hold perceptions that need examination.

At this point, we have experienced almost two years of intense debate about schools and teachers. Inspired by a number of governors in the southeastern part of the country and manifested in the report of T. H. Bell's National Commission for Excellence in Education (1983), the reform movement has now reached a new threshold. It seems likely that the debates and discussions will continue, although with a new focus and at a less frenzied pace than in the past several months. As states concentrate more and more effort on economic development and see quality schools as a major incentive for attracting new industry and business, the quality of teachers and textbooks will be of intense interest. Already the debates about career ladders, differentiated staffing, merit pay, and master teachers have signaled continuing attention to this effort. Whether the major school reforms of 1984 will be reinforced by similar efforts in 1985 is difficult to predict.

In a real sense, this "echo reform" effort will be of greater significance because of the intensification of efforts to affect the quality of teachers. Policymakers are becoming aware of the forthcoming teacher shortage; supply-demand studies are predicting the impact of the significant growth of the preschool age population, the significant decrease in the number of teacher candidates, and increasing teacher retirements. However, the fact that this shortage is likely to restrict other reform efforts is not being widely debated.

Finding teachers to staff the nation's classrooms is a challenge to everyone interested in school reform. Policymakers must see the connections between quality preparation programs and quality teachers. Currently the shortage is limited to certain subjects and geographic sections of the country, but it will grow to become a nationwide problem in 1985 when, for the first time in a generation, we will produce 25% fewer teachers than are needed to staff our classrooms. While the teacher reserve pool will alleviate some of the initial pressures, this source of teachers will gradually be depleted. At that point, important efforts will be made to increase the "flow" of young people into the pipeline to become teachers.

This paper will examine elements of the present context that affect the reform of teacher education, identify the agendas of groups that influence the policymaking process, contrast establishment and disestablishment views of reform, identify important questions we should be asking, and outline interventions we can make to meet the challenge of reforming teacher education.

The Context of Teacher Education

As we look at the position of teacher education in 1984, we are confronted with an environment that is both hostile and supportive. There is hostility in the tendency of policymakers to look toward disestablishment strategies and reform measures. Some would dismantle schools of education, establish alternative certification procedures, establish open hiring policies, provide on-the-job training, and require pedagogy. At the same time, there is a significant and, thus far, an overwhelming sentiment to improve and retain collegiate-based teacher education by strengthening certification procedures, tightening program approval procedures, and making programs more rigorous. Five elements in the present environment will affect which direction prevails.

The first is the necessity of balancing reform with economic and fiscal realities. The economic pressures confronting our society and the overwhelming Reagan victory in November are probably going to affect the economics of education, reshape the reform sentiment that has thus far been pervasive and prevalent, and result in some very different kinds of educational policies. With the servicing of the federal debt expected to grow to more than 17%, fewer and fewer federal dollars will be available for domestic programs. Pressures to reduce federal expenditures for education will be substantial--particularly given the assumption that states have significant surpluses that can be allocated to education and other domestic priorities. The fact that total state surpluses in 1983 were less than 3% of total state spending suggests that some very hard political decisions will have to be made at both state and federal levels if the costs of reform are to be met. Neither state nor national leaders seem prepared to raise taxes to generate resources.

The second contextual factor is an interest in institutional disestablishment. Critics of the establishment are looking for alternative institutions, alternative ways, and alternative providers.

The third contextual element is the debate about elitism and excellence, or whether, as Bob Howsam puts it (1983), we will have inclusionary or exclusionary schools. In this period when we are moving away from inclusive schools and toward more exclusive schools (schools that tolerate failure and attrition), we must seriously question the role and purpose of schooling in America. While the current trend is creating the momentum for the next great reform movement in the 1990s, with its emphasis on inclusion, we seem to be ignoring the realities of both demographics and a new pluralism.

The fourth contextual variable with which we are confronted is new federalism versus federal responsibility. In the next four years, the debate will continue between the increasing role of the states in educational reform and at the same time the present conservative sentiment in Washington about federal responsibility and the role of the federal government in education. It is safe to say that educational reform was initiated by the governors, and it seems likely to continue because of their interest.

And, finally, the fifth contextual element is the challenge to the pluralism of values by a narrower definition of the values to be taught in schools. A fundamentalism based on what some see as patriotism and conservative Christian values is finding its way into educational policymaking and will make it very difficult for schools and particularly for those of us who prepare teachers to resolve issues and concerns having to do with curriculum priorities.

Groups Influencing Policymaking

Three groups of people influence educational policy. These people, in turn, need to be influenced, also. The first group is the policymakers--the local, state, and national elected officials, primarily the state governors and legislators and the national congressional officials. The second group is the policy implementors--appointed officials such as chief state school officers and university presidents, other academic leaders within institutions, and state and local education agency leaders. The third group is the policy influencers--staffs of foundation think tanks, members of the media; consultant professors and their clients, professional groups, and consumers. The interlocking relationships between these three groups are open to intervention and are in a state of flux as a result of the reform movement. Both state and federal policymakers are asking questions that have to do with limited resources, increased expectations, and the desire to see genuine change result from investments. One of the policy issues is whether teacher education is a worthy investment or point of intervention. If teacher education is seen as a significant point for intervention or as an investment, and dollars are allocated, they want to know what kind of payoff they can expect in terms of other changes within the educational system. Many are asking how they can be guaranteed that the investments they make will make a difference. They are very concerned about accountability--making sure that the dollars invested are accounted for in terms of system performance--and thus they are attracted to performance measures, warranties and guaranties, and teacher candidate testing.

Two Views of Reform: Establishment vs. Disestablishment

Those who want to increase both the caliber and the quantity of new teachers are attracted to two alternative strategies. For some policymakers, retaining and improving the existing teacher education system is the way to achieve a new teacher work force. For purposes of description, I call this group of policymakers the establishment group. Other policymakers, who are confronted by extraordinary pressures such as meeting critical shortages or who see great merit in alternative training systems, want to eliminate the existing teacher education system. I use the term, disestablishment group, to refer to those who seek alternative ways of preparing teachers. The disestablishment group sees little value in the process-product research of the past decade, has little understanding of pedagogy, and wants to extend eligibility to teach to any college graduate with an academic major. This group also includes those who want to find alternative ways of delivering educational services through home study, vouchers, or electronic communications.

The establishment reformers favor strengthened certification procedures for teacher education, tightened program approval in accreditation procedures, targeted scholarships and loans by state and federal legislators, and capacity building grants that will be invested to change the system. The disestablishment reformers promote the alternative certification proposals that we have come to associate with New Jersey, open hiring policies, and the avoidance of certification procedures. They talk of school-based teacher education, prospective teachers learning to teach from master teachers, and apprenticeship training structures. The training institute or teacher center offers one model for this type of induction program. The disestablishment sentiment is also evident in the Christian school debate about certification, accreditation, and school approval. The recent Supreme Court decision not to hear the Christian School Case is only a temporary impediment on the way to deprofessionalizing the teacher work force. If the decision were made to favor their position, the impact on schools, colleges, and departments of education could be overwhelming. Vouchers and tuition tax credits also lend themselves to disestablishment, as do centers for excellence, which have almost become a euphemism for the displacement or termination of school-of-education programs in favor of alternative structures.

It is interesting to note that the disestablishment proposals are basically out of harmony with the kinds of reforms advocated in A Nation at Risk and the 220 studies we now have on school reform. Those reports propose six basic education changes. First, there is unanimous agreement that admission criteria must be raised in order to attract the "best and the brightest." Second, without defining either what the best and brightest might do to the schools or what impact they would have on school faculty and programs, support for this recommendation is widespread. Third, most reformers say that ideal teacher education programs should have less pedagogy and more subject matter. Somehow, they think such programs will produce teachers who will have a better impact on schools, ignoring a small but succinct body of research that shows little correlation between teacher effectiveness and subject-matter mastery. Fourth, reformers call for more contact with real work, meaning more contact with teachers and more experience within schools. Fifth, they favor accountability measures such as competency and performance examinations. And sixth, reformers call for extended programs for teacher preparation that provide increased contact with the schools. As we move into the echo phase of this reform movement, we need to reshape the policy questions that are and ought to be raised by state and federal policymakers.

As establishment policymakers have debated the improvement of teacher education, they have sought to control access to teacher education by mandating the use of basic skills tests, establishing minimum scores on standardized achievement tests, and setting minimum grade point averages. They have prescribed course and field-experience requirements of teacher education programs. The third intervention has been teacher tests of subject matter, pedagogy, and general knowledge. Some 29 states now use some form of prescribed test. Another intervention is the increasing practice of requiring an internship or induction program following completion of the college program. Nine states currently have such a requirement.

While state policymakers make use of such interventions, little is known about the impact of these measures on the substance of teacher education programs or the performance of graduates of such programs. Both are areas of rich investigation for researchers., Also ignored is the fact that the majority of interventions have been for the purpose of screening out people rather than attracting more candidates into teaching. Already, we know the impact screens are having on the availability of minority teachers and teachers of bilingual education.

The fact that establishment reformers are the champions of such policymaking does not create much confidence in their support for teacher educators. Rather than holding the entire college or university accountable for the deficiencies of prospective teachers on basic skill or subject-matter examinations, they have enacted probationary systems that penalize schools of education. Therefore, while some see the establishment group as friendly to schools of education, establishment policymakers may have as adverse an effect on schools of education as disestablishment policymakers.

Policy Questions Not Being Asked

There are eight questions I wish policymakers were asking. They are as follows.

1. What are the policy consequences of an increasingly white teacher work force and an increasingly black or brown school population? I cannot think of a more important question for public policymakers to be asking right now as we see the minority segment of the teacher work force dwindling from approximately 12.5% of the total work force to about 5% by the end of the decade. At the same time, the minority school population is increasing tremendously; 33 to 36 major school districts in this country will soon have student populations in which minorities are the majority. How do we cope with that fact? What are the implications of that as we recruit, prepare, and certify new teachers?

2. What are the policy implications of studies that show a rapidly increasing school population and a declining teacher work force? How do we replenish the teacher work force? What kinds of people should be attracted into teaching? Are incentives needed to attract persons into teaching, and do existing incentives need to be changed? Must we increase salaries or can we provide other kinds of rewards?

3. What should policymakers be doing so that schools enable teachers to gain greater professional autonomy and responsibility? One of the unanswered policy questions is how we reconcile the literature on effective teachers, which advocates greater responsibility and autonomy for individual teachers, with the view that principals and teacher supervisors should take increased responsibility for school improvement and teacher training.

4. What kinds of interventions by schools of education can bring about desirable reform? What, for example, are the implications of the new knowledge on generic and subject-specific teaching competencies for programs for prospective

and practicing teachers? What knowledge can be derived from research studies on human development and environmental conditions, and how do we incorporate this knowledge into programs for prospective and practicing teachers?

5. What blend of didactic and clinical training is optimal in preparing teachers? How much time and experience are necessary in academic disciplines and in pedagogy? Right now, many teacher education programs are caught in a squeeze of requirements by the arts and sciences on one hand and school practitioners on the other, despite the fact that neither of those approaches may ultimately affect the quality of classroom teachers.

6. In what teacher training approach should we invest our resources? Policymakers have generally been attracted to a behavioristic, technical, or competency approach. A number of chief state school officers are talking about the reintroduction of competency-based teacher education, believing that that is a viable way to prepare teachers for the next 20 years, now that we have the knowledge base to identify the required competencies. Is there danger in investing money in a single model of training? How do we build diversity into teacher education programs, at least until we have tested and found THE model--that is, if there is one? What impact will an increasingly pervasive testing movement have on creating a national teacher education curriculum?

7. Should other interventions be made to improve curriculum development and thus professional development? What kinds of knowledge production and utilization investments must be made to improve the quality of teacher education? That question is at the heart of this conference. What are some of the questions and concerns we need to address as we begin to make what must seem to policymakers a very remote and removed effort to improve the environment of schools?

8. Can we identify quality teacher education? How do we know it when we see it? Should we be looking at process or product? Do the concepts of "deficit entry" and "safe practice" offer us the basis for making judgments about quality programs? Does the concept of the beginning teacher that the American Association of Colleges for Teacher Education (AACTE) has been advocating for the past five years provide a basis for making judgments about a quality program? What do the work stages of development for teachers have to say about that kind of product orientation? Certainly, policymakers feel more comfortable with the current emphasis on product evaluation, performance follow-up, competency measures, measures of student performance, and the use of paper-and-pencil tests, which are all efforts to emphasize the product side. The education profession, however, is

asking whether it is more fruitful to look at process criteria. Do we know enough today about milieu, climate, leadership, innovation, and a host of other intangibles to make judgments about process quality? What is the necessary critical mass of students and professors engaged at one time on one site to have a quality program? And what kinds of linkages and coherence do quality programs have that poor programs lack?

These are the kind of questions I wish policymakers would begin to put at the forefront of their agendas and to think through with us.

Responses to Policy Issues

There are now three avenues for influencing and changing educational policy. First, the education profession itself has the obligation and capability to achieve a consensus about the best teaching practices and the characteristics of quality programs. The National Commission for Excellence in Teacher Education is a body that can bring about that kind of consensus. Consensus could also result from linkages emerging between deans of education and chief state school officers through money the Exxon Education Foundation has provided to bring those groups together and get them to articulate steps toward educational reform. Consensus can occur through the NCATE-redesign efforts to assess product and process evaluation and their effects on new criteria, standards, and procedures of accreditation. I believe consensus can occur as a result of the Holmes Group, that group of some 20 large research-focused institutions that has made a commitment to invest time in looking at quality issues and projecting where we should be going. Finding other ways to articulate consensus positions is absolutely essential. This conference and other conferences sponsored by a host of organizations can help to facilitate that.

The second avenue of change is working with the undergirding system of policy implementors. Certainly, the American Association of Colleges for Teacher Education has moved in that direction by meeting quarterly with representatives of 11 Washington-based elementary and secondary organizations and seeking to influence their perspectives on policy and policy decisions. We can also work with teacher education groups and with presidents and other academic leaders of institutions. Two other groups have emerged as key targets to influence: the Education Writers Association and the Council of Foundations. If any group influences the country enormously, it is the education press. Finding ways to intervene with that group and to influence press coverage is critical. And the

Council of Foundations has had much to say about investment strategies for education. In the past two weeks, the Precollegiate Group of the Council of Foundations has met, and a number of foundations have announced their intention to reinvest in teacher education. The Ford Foundation has taken the lead in that effort. Modest resources will emerge from the foundations, and the emphases taken by the grants and awards will undoubtedly shape the next generation of public policy emerging from state legislators and federal officials. Finally, it is essential that we find better ways to influence policymakers. The kinds of policy forums that the Institute for Educational Leadership and the American Educational Research Association have sponsored in Washington, DC need to be replicated at the state level.

These are the ways that we can prevent the ascendency of disestablishment sentiment and promote more positive and constructive policymaking for teacher education.

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OPTIMIZING OPPORTUNITY IN TEACHER EDUCATION RESEARCH (OR THREE BIRDS IN THE HAND CAN BE KILLED WITH ONE STONE)

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An anthropologist once told me that my emphasis on practical utility in evaluating educational research was a typical response for someone raised in midwestern American culture. I replied that I had been raised in the Northeast, but he said it amounted to the same thing. In any case, he was right in identifying my tendency to assess value in pragmatic terms. I do not think that I am unique in that attitude. Teacher educators, like most Americans, may pay lip service to the ultimate value of basic research (who would dare to criticize motherhood, apple pie, or the advancement of scientific knowledge?), but what we really want to know is how is this research going to help me right now? As a teacher educator, I think that is a sensible question for us to ask. As a researcher, I think it is a question that we can satisfactorily answer. This paper will provide one possible answer by reporting on the immediate practical value of some recent teacher education research in which I have been involved at Syracuse University.

A brief description of the teacher education programs at Syracuse will help to delineate the setting for research. We have preservice programs in elementary, secondary, early childhood, and special education at both the undergraduate and masters degree levels. None of these are large programs. In addition, we operate two teacher centers in cooperation with local school districts. The directors of these centers are employed half time by the school district and half time by the university. The centers provide inservice training for teachers in the districts, as well as field experiences in preservice supervision and inservice program development for our doctoral students. Our doctoral program in Teaching and Curriculum provides Ed.D. and Ph.D. degrees to students whose career goals include work in staff development, preservice teacher education, and research on teaching and teacher education.

The theme of our preservice program is "the teacher as decision maker," and each course in the sequence emphasizes particular personal and professional decisions that prospective and practicing teachers must be prepared to make. Most of these courses include field experiences, which provide real settings in which decision making can be practiced. For example, the introductory course on The Study of Teaching places students in public school classrooms for directed observation. The personal decision to be faced by students in this course is, "Do I really want to be a teacher?" The professional decision to be faced is, "What do I need to know about how pupils respond to particular teaching techniques, and how can I best observe those responses?"

A central focus of our doctoral program is research on teaching. Core courses include Current Research on Teaching, Assessment of Teaching, and Program Development in Teacher Education (the application of research in the design and evaluation of teacher education programs). Other available courses include Classroom Observation Systems, Strategies for Research on Teaching, and Models of Teaching (the application of research in the design of instructional strategies).

A basic feature of program management in our School of Education at Syracuse is the rule that every professor teaches some classes, no matter how heavily involved in research or administration he or she may be. Furthermore, in departments that operate both graduate and undergraduate programs, most professors teach classes at both the undergraduate and graduate levels. This practice provides an important opportunity for linkages between the preservice and doctoral programs. It is this kind of linkage that enables us to maximize the practical value of the teacher education research in which we are engaged. To illustrate, I want to describe four research projects in which I have participated in the past two years. But first, let me indicate the practical needs of the various participants.

Three Birds

When I speak of "killing" three birds, you must understand that I refer to three sets of needs, not to the three types of participants. The major participants in the research projects I will describe were preservice students (subjects), doctoral students (researchers), and teacher education professors (subjects and research advisers). Each of these three participant groups has different practical needs that can be served by participation in research. Preservice students need feedback on their development of knowledge and skills over the period of their preservice training. Doctoral students need to develop skills in research and evaluation. They also need accessible settings for conducting dissertation research and topics of investigation or some ongoing line of research on which they can build. At Syracuse, in addition, Ph.D. candidates must fulfill a requirement to complete a research apprenticeship before beginning their dissertation research. Teacher education professors need feedback on the effectiveness of their individual courses and their overall training program. At Syracuse, in working with the prospective teachers and teacher educators who are students in our programs, we also need to achieve specific instructional goals such as developing positive attitudes toward research and self-evaluation.

These various needs can be simultaneously satisfied by carefully designed research projects. For example, every fall I teach a course on Strategies of Teaching to secondary education students before they embark on their student teaching experience. The course is designed to give them practice in planning and teaching lessons based on several different models of teaching (Joyce & Weil, 1972). They are encouraged to examine alternatives in making both preactive and interactive decisions. Students in this course need skills in planning and various interactive techniques because they are involved in peer teaching the various models or strategies. They also need feedback on the effectiveness of their planning decisions and their interactive decisions, and they need opportunities to reflect on the processes they have used in making these decisions. Some of these needs are dealt with through peer teaching experiences, but this is not enough.

In addition to the strategies class, I teach a doctoral course on Program Development in Teacher Education in the fall. This course is designed to give students practice in analyzing alternative bases for program organization, making cooperative decisions, and evaluating program outcomes. Students in this course need to experience both the practical problems of research and evaluation in teacher education and the practical benefits of such research.

One Hand

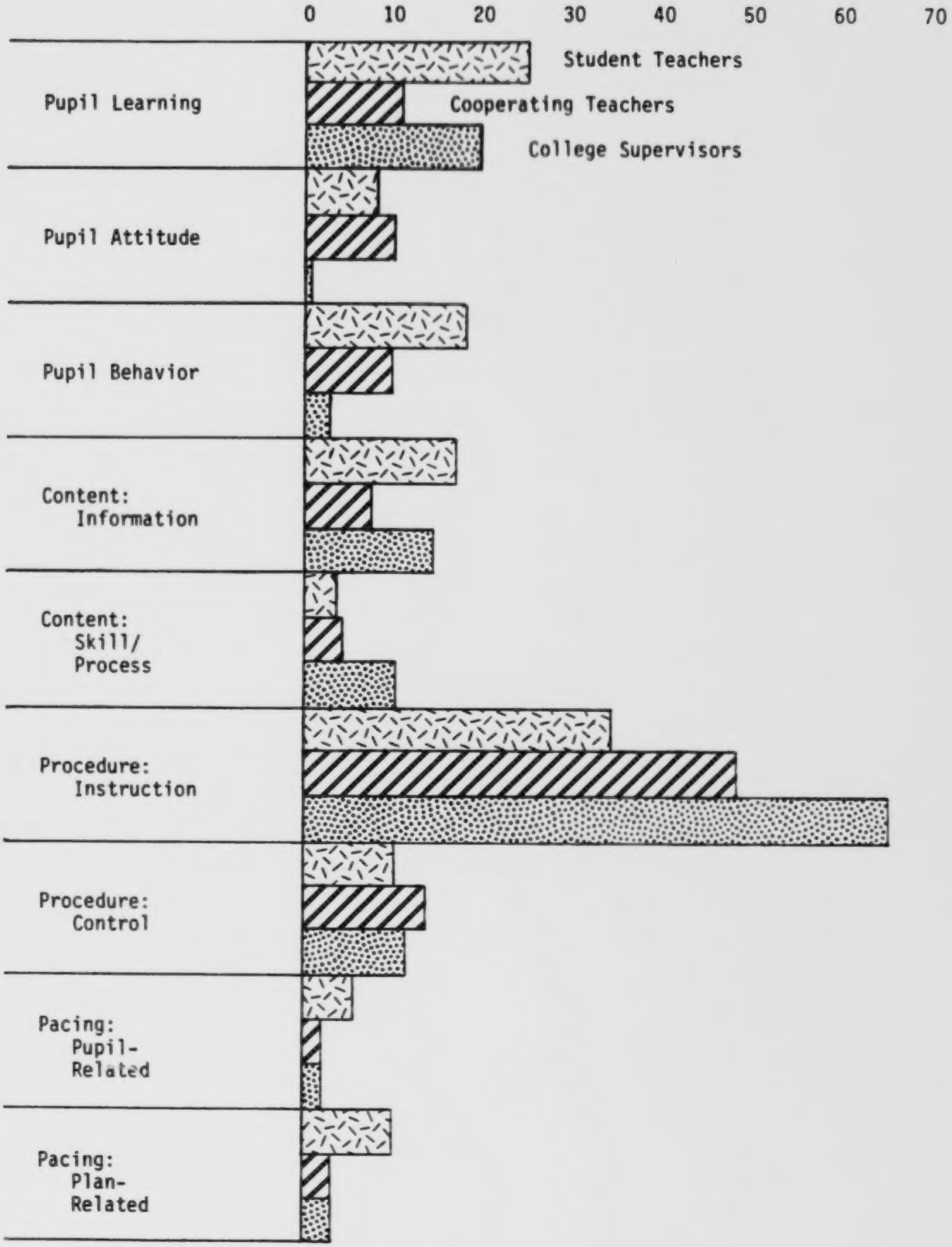
My own involvement as instructor of both these courses provides a perfect opportunity to coordinate the needs of the two groups and to fill some of my own needs as well. Thus, the three birds are in one hand. The doctoral students work with the preservice students to collect data for program evaluation. They engage in a rough preliminary analysis of the data during the fall semester. Then those who choose to do so can complete their research apprenticeship by conducting a small-scale study using the data collected by the group. Since the preservice program emphasizes decision- making skills, the program evaluation project focuses on the cognitive processes of preservice students, providing them with further opportunity for reflection on their own decision-making processes. As an instructor, I receive useful information on the instructional skills exhibited by my preservice students, and at the same time, I sharpen the research skills of my doctoral students. All of us benefit from this coordination of goals.

Finding Food for Thought

Let me describe some of these benefits, which I might term food for thought. In the fall of 1982, students in the program development course conducted a study comparing the perceptions of nine secondary student teachers, their cooperating teachers, and their college supervisors. Lessons taught by the student teachers to their high school classes were videotaped, and stimulated recall interviews were conducted as the videotapes were played back. Students were asked to stop the tape at any point where they were aware of making a decision and to comment about their thinking at that point. The same videotapes were played for the cooperating teachers and the college supervisors, who were interviewed individually and asked to stop the tape at points where they would want to comment to the student teacher about some aspect of the lesson. All interviews were audiotaped, and the comments of participants were coded according to a category system developed for use in an earlier California study (Morine-Dershimer, 1979). Additional categories were added for purposes of comparing comments of the two types of supervisors. Since prior research had shown that student teachers tended to adopt the interactive behavior patterns of their cooperating teachers (Joyce & Seperson, 1973), a basic question asked in this study was whether these student teachers were more similar to their cooperating teachers or their college supervisors in their patterns of thinking about instruction. A second important question was whether cooperating teachers and college supervisors were providing complementary or conflicting feedback to the student teachers.

As Figure 1 illustrates, the general findings of this study (Coiro, 1983) were that the three role groups had roughly similar patterns of emphasis on the various types of instructional concerns they expressed (e.g., instructional procedures were commented on most frequently by all three groups, while lesson pacing was commented on infrequently by all three groups). Further, student

Figure 1
Instructional Concerns of Three Groups
(Mean % of decision points discussed)



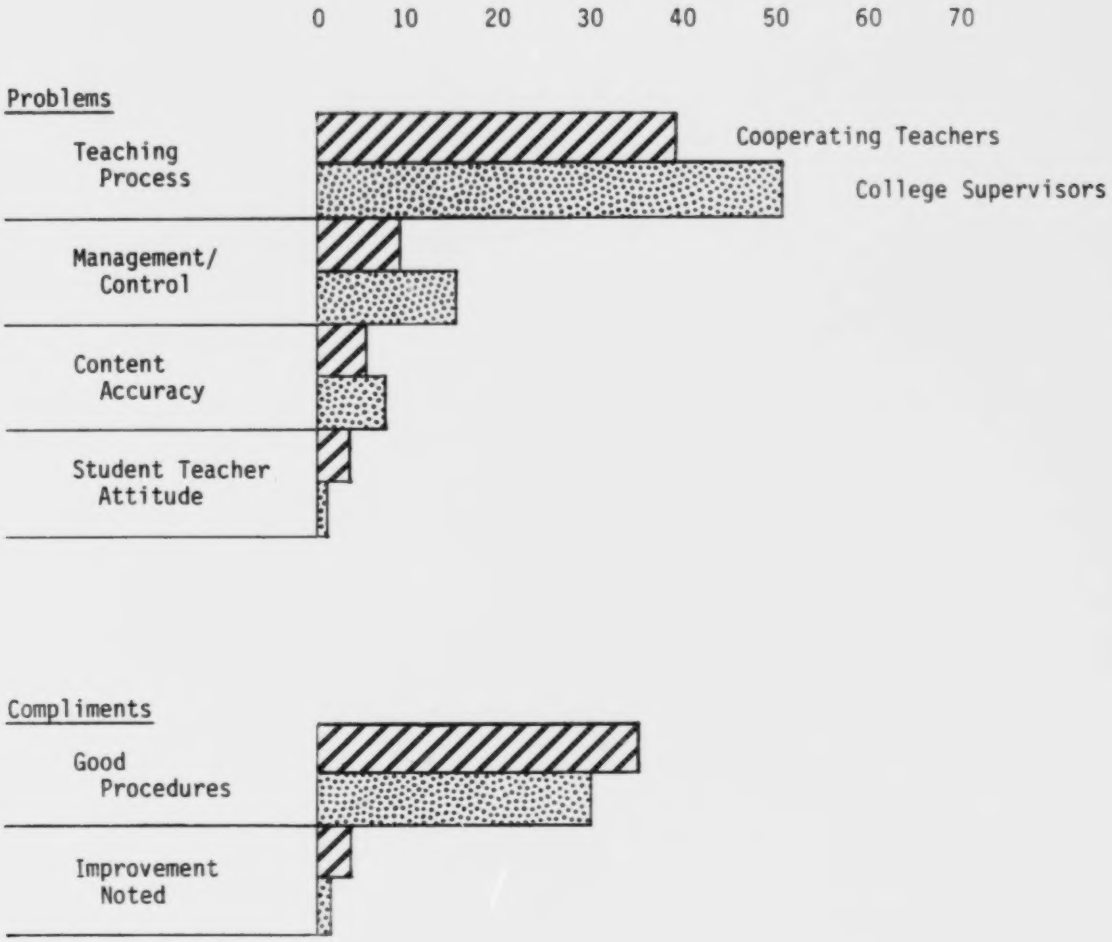
teachers were quite similar to college supervisors in some regards (e.g., emphasis on pupil learning), and quite similar to cooperating teachers in other regards (e.g., emphasis on pupil attitude). This pattern suggests that student teachers were exhibiting a "world view" that included aspects of the world views of both types of supervisory personnel.

Each role group exhibited somewhat different degrees of emphasis on particular aspects of instruction, and these differences were consistent with their different responsibilities. For example, student teachers, who were the actual teachers of the lessons, were rather more concerned with pupil learning, pupil behavior, and lesson pacing than the other two groups, while cooperating teachers were rather more concerned with pupil attitude and college supervisors more concerned with procedures for instruction.

Although cooperating teachers and college supervisors showed some differences in emphasis on supervisory concerns (see Figure 2), for the most part they did not exhibit drastically different or conflicting points of view (Norton, 1983). Note, however, the tendency for college supervisors to be more critical, and cooperating teachers to be more complimentary. All of these results were considered to be fairly positive findings from the point of view of program evaluation, and all of the participants commented favorably on the increased awareness they experienced as a result of the interviews.

During the spring semester, five doctoral students continued to work on this study, two of them to fulfill research apprenticeship requirements and three simply because they were interested. Each of them carried out a small substudy, using the original data. In fall 1983, they presented a symposium on these studies at the Northeast Educational Research Association meeting. Two of these studies presented particularly interesting additional findings. One study (Beyerbach, 1983) compared the results of quantitative and qualitative analyses of the interview data for one triad (i.e., a student teacher, her cooperating teacher, and her college supervisor). The quantitative analysis showed rather small differences in the perspectives of the three subjects, but the qualitative analysis revealed that the student teacher and the cooperating teacher tended to stop the videotape to comment at the same point in the lesson, and that they expressed similar views and used similar terms in discussing the events they observed, while the college supervisor selected different points in the lesson to stop and comment and expressed somewhat discrepant views. It was concluded that in this case, at least, the student teacher was more similar to the cooperating

Figure 2
Supervisory Concerns
(Mean % of lesson events discussed)



teacher than to the college supervisor in her thinking about instruction, and that the qualitative analysis provided a very useful supplement to the quantitative analysis.

The second study (Devlin-Scherer, 1983) selected three triads where members exhibited congruent perceptions of the student teacher's lesson and compared them to three triads where members exhibited discrepant perceptions of the lesson. For the purposes of this comparison, the interactive behavior of the six student teachers was coded using a system of diagramming question cycle sequences developed in an earlier sociolinguistic study (Morine-Dershimer & Tenenberg, 1981). A question cycle includes a teacher question, a pupil response, and a teacher reaction. There are three basic types of question cycles. In an *independent cycle*, the teacher asks a question, gets a response, reacts, and moves on with a new question to a new student. Sequences of these types of cycles are diagrammed vertically (see Figure 3). In a *conjunctive cycle*, the teacher asks the same question of several students, either because the first response was incorrect or because the question permits several different correct responses, as in an opinion question. Sequences of these types of cycles are diagrammed horizontally. In an *embedded cycle*, the teacher reacts to a student response by asking a probing or clarification question of that same student, so that the reaction initiates a new question cycle embedded within the initial cycle. This type of cycle is diagrammed as a subscript of the question cycles within which it occurred.

The Devlin-Scherer analysis compared diagrams of lessons that were similarly perceived by student teacher, cooperating teacher, and college supervisor with those that were perceived differently by the three individuals interviewed. As Figure 3 demonstrates, in triads with congruent perceptions, the student teachers taught *linear* lessons (i.e., lessons with questions that moved from student to student and point to point within the topic area), and periodically extended the discussion of selected questions through the use of probing questions or asking another student to respond to the same question. These are patterns previously found to be typical of textbook-based lessons or direct-instruction techniques, and they tend to be effective in maintaining student attention and increasing student achievement (Morine-Dershimer, 1985). In triads with discrepant perceptions (see Figure 4), the lessons were more erratic in questioning format. For example, in an English lesson on interpretation of literature, the student teacher frequently asked the same question of a variety of pupils to elicit

Figure 3
Question Cycle Sequences
Three Lessons with Congruent Perceptions

English #2	Science #2	Social Studies #3
1 2	1_1	$\underline{1}$
2	2_1	$\underline{2}$
3 2	3	$\underline{3}$
4	4_1	4
$\underline{5}$	5	5
6 2	6	6_1
7 2	7	7_2
$\underline{8}$	8	8
$\underline{9}$	9	9_4
10	10_1	10 2 3
11	11	11 2
12_1	12	$\underline{12}$
13 2	13	13
14	14_1	14
$\underline{15}$	15	15
16_1	16_2 2	16_1 2
17 2	17_2	$\underline{17}$
18_1	18_1	18 2_2
19 2	19	19 2
20	20_1	$\underline{20}$
21	21	21
22_2	22	$\underline{22}$
23	23	23_1
24 2	24_1 2	24 2 3 4 5_3
25	25	25
26	$\underline{26}$	26_1
27	27_1	27
28_1	28	28_1
29 2 3	29	29
30	30 2 3 4 5_2	30
31	31 2 3	$\underline{31}$
32	32	$\underline{32}$
33	33_1	33
34	34_2	$\underline{34}$
35_2	35	35_1
36	36_1	36_1
37	37	37
38	38	38
	39_2	39
	40_1	40
	41_2	41_1
	42	42_1
	43	$\underline{43}$
	44	$\underline{44}$
	45	45
	46	46 2_1 3
	47	47
	$\underline{48}$	48
	$\underline{49}$	$\underline{49}$
	50	$\underline{50}$
	51 2	$\underline{51}$
	52	52

Figure 4
Question Cycle Sequences
Three Lessons with Discrepant Perceptions

English #1	Science #1	Social Studies #4
1	1	1
2	2	2
3	3	3
4	$\underline{4}$	4 2 3
5	$\underline{5}$	5
6	$\underline{6}$	$\underline{6}$
$\underline{7}$	$\underline{7}$	$\underline{7}$
8 2 3	$\underline{8}$	$\underline{8}$
9	9 2	
10_1 2_1	10	
11_4	11	
12	12	
13 2 3_1 4_1	13	
14	$\underline{14}$	
15 2	15	
16 2	$\underline{16}$	
17 2 3	$\underline{17}$	
18	$\underline{18}$	
19 2 3 4 5 6	$\underline{19}$	
20	20	
21 2 3 4 5 6 7_2 8 9_1	$\underline{21}$	
22	$\underline{22}$	
23	23	
24	24 2	
25	25	
26_2 2_1	26	
27	27	
28	28	
29	$\underline{29}$	
30 2	30	
31	31	
32 2	32	
33	33	
34	34 3	
35	35	
$\underline{36}$	36	
37	37	
$\underline{38}$	38	
$\underline{39}$	$\underline{39}$	
	40	
	41 1	
	42	
	43	
	44	
	45	
	46	

different responses to the same assigned reading (showing more horizontal movement in the diagram). In a science lesson, the teacher made no use of this technique and almost no use of probing questions, and many questions were asked by students rather than the teacher (indicated by underlining in the diagram). This is a pattern typical of the inquiry training model explicated by Joyce and Weil (1972). In the third lesson, very few questions were asked. The teacher gave a seatwork assignment, and verbal interaction in the large group setting ended.

Questions in the discrepantly-perceived lessons were also more varied in nature than those in the congruently-perceived lessons (see Figure 5). For example, more management questions were asked, but also more higher order (opinion, application, and prediction) questions. Questions in the congruently-perceived lessons were mainly factual, another pattern typical of direct-instruction lessons. It was concluded that student teachers who taught typical direct-instruction lessons were more apt to receive consistent feedback from cooperating teachers and college supervisors than students who taught less typical though not necessarily less effective lessons.

This was important information, since our preservice program emphasizes training in use of alternative strategies. We decided that neither the cooperating teachers nor the college supervisors (who are frequently graduate assistants) were as well equipped to provide feedback to student teachers on their use of teaching models as they might be. One of our teacher center directors then began development of a series of videotapes demonstrating use of these models with both elementary and secondary classes and featuring pre- and post-lesson interviews with the demonstration teacher in which planning and interactive decisions are discussed. These tapes are to be used with cooperating teachers and college supervisors as well as preservice students. In addition, I changed some procedures in the strategies course, setting up partnerships for the peer teaching sessions so that students now develop skill in providing feedback by coaching each other on important features of the various models. We recommend that they continue this type of mutual support during their student-teaching experience.

This initial study was also productive of further research. Two of the doctoral students who participated went on to do dissertation studies that examine the cognitions of our preservice students. Data analysis is completed for one of these studies and still in progress for the other.

The first study (Beyerbach, in preparation) examines preservice students' conceptions of teacher planning at several different points in time. Students in

Figure 5

Types of Questions Asked

Question	Lessons With Congruent Perceptions			Lessons With Discrepant Perceptions		
Type	English	Science	Social Studies	English	Science	Social Studies
Management	.19	.07	.15	.37	.30	.40
Factual/Memory	.64	.93	.52	.14	.17	.30
"Higher Order"	.17	.00	.33	.49	.53	.30

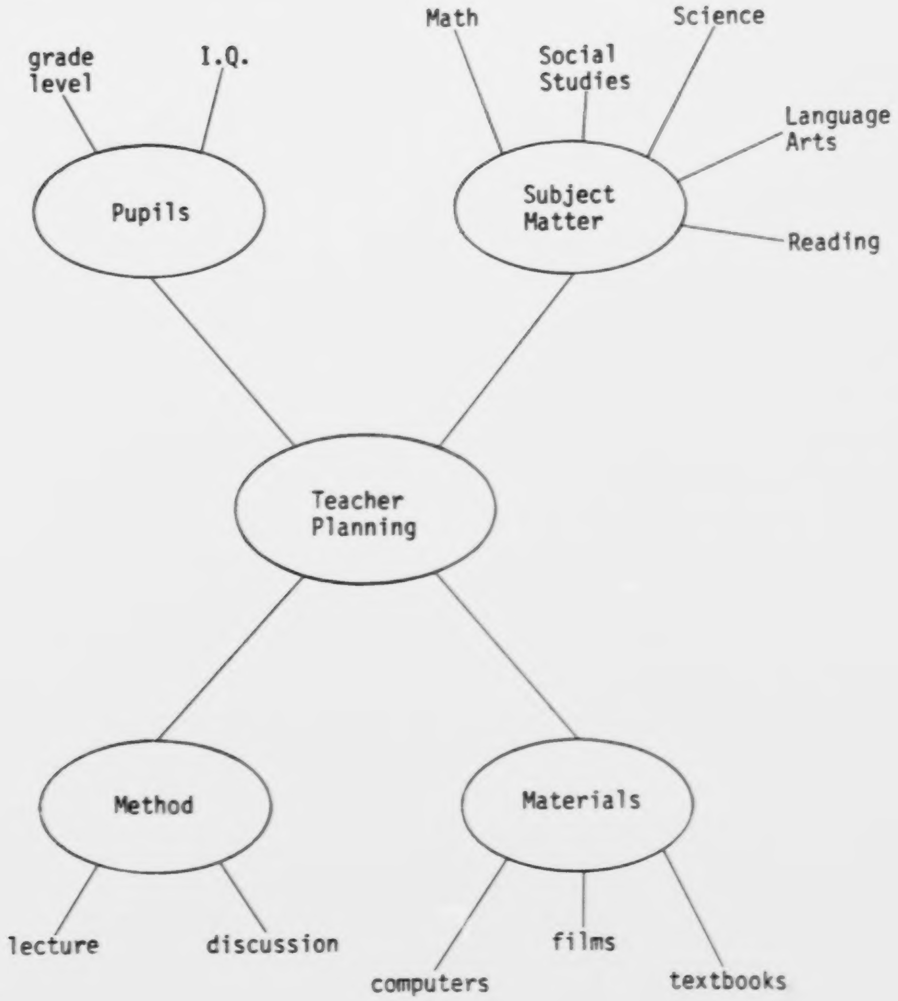
the freshman, sophomore, and junior level preservice courses were tested at the beginning and end of the fall semester of 1983, using a concept mapping procedure (Novak & Gowan, 1984). Figure 6 shows a concept map of teacher planning that might be described as fairly simple and naive because it uses very obvious organizing categories and extends only two levels from the topical concept (e.g., method is a first-level organizing category, and lecture is a second-level category). The concept map shown in Figure 7 is more complex and more sophisticated, as indicated by the terms used and the number of levels included. In addition, it indicates relationships among the major organizing categories, suggesting that elements of teacher planning are filtered through guiding principles, leading to decisions, evaluation, and possibly a new perception of the elements.

In the Beyerbach study, difference within and between groups in the terms used and differences in the number of levels included in the concept maps were examined to determine changes that might occur as a result of a particular course, as well as changes that might occur as a result of participation in the program over time. Two of the three classes showed significant pre to post changes, and students produced concept maps more similar to those of the instructors at the end of the course than at the beginning. More advanced students were more apt to adopt the ideas presented by the instructor in the class they were taking, and they also showed more similarity to each other in use of terms than did beginning students, suggesting that a common language or a common set of concepts was being gradually developed through the program. Within each class, the changes that occurred in student conceptualization were consistent with the stated goals of the instructor. For example, in the freshman course, the instructor wanted students' concepts of teacher planning to become more differentiated and hierarchical in organization, and this change was observed in the students' maps (i.e., the number of levels used increased significantly). In the sophomore course, the instructor wanted students to adopt and apply a particular theory, and students' maps changed to include the major organizing concepts of this theory as their first-level categories.

I happened to be a subject in this particular study and learned some interesting things as a result. It was the first time I had taught the strategies course to juniors in elementary education rather than to seniors in secondary education, and I was the only one of the three instructors whose pre- and post-concept maps showed clear differences. This result was objective evidence

Figure 6

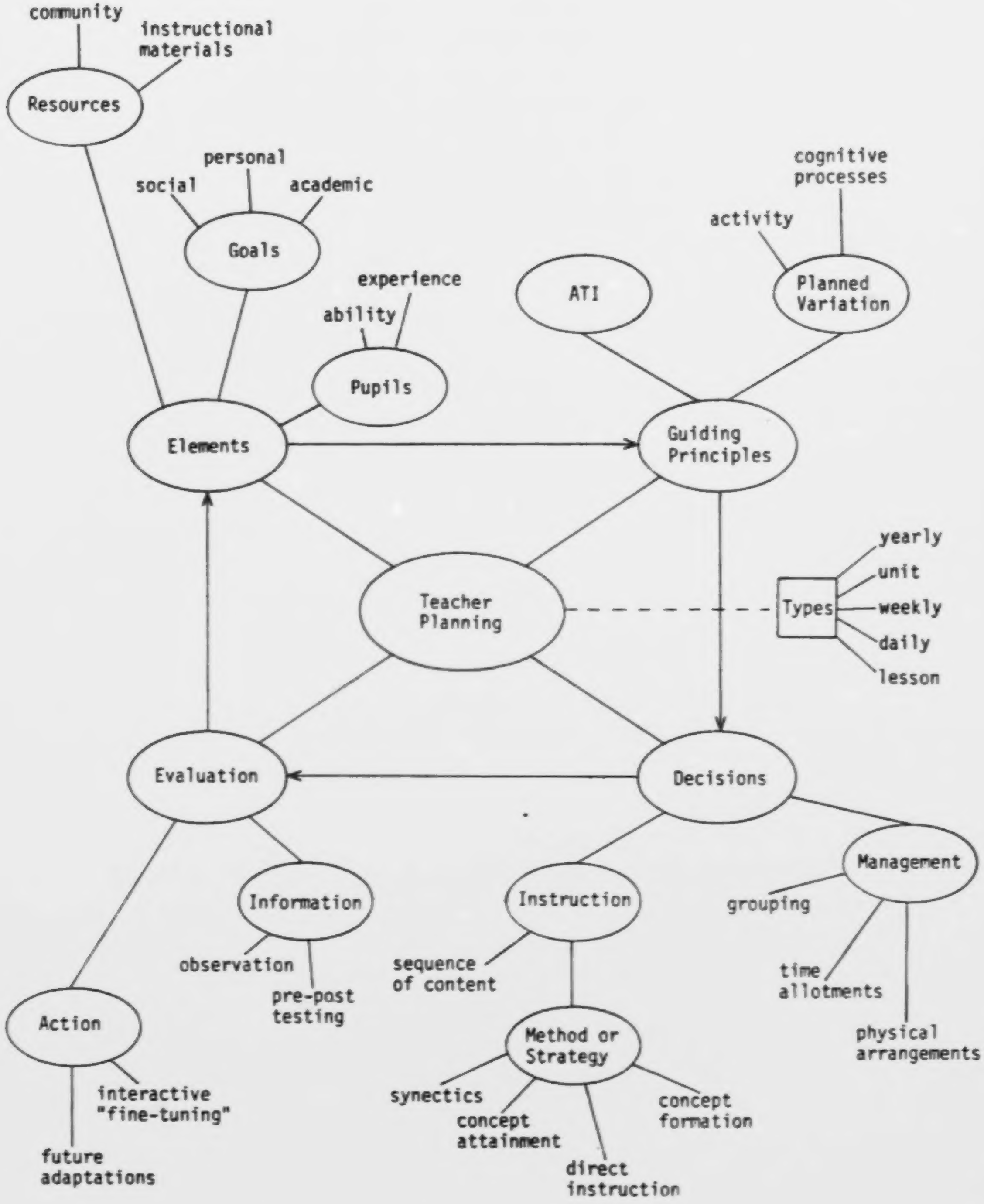
Simple Concept Map



grade level
I.Q.
Pupils
Math
Social Studies
Science
Language Arts
Subject Matter
Reading
Teacher Planning
Method
lecture
discussion
Materials
computers
films
textbooks

Figure 7

Complex Concept Map


community
instructional materials
Resources
social
personal
academic
Goals
cognitive processes
activity
experience
ability
Pupils
ATI
Planned Variation
Elements
Guiding Principles
yearly
unit
Teacher Planning
Types
weekly
daily
lesson
Evaluation
Decisions
Management
Information
Instruction
grouping
observation
sequence of content
time allotments
pre-post testing
Action
Method or Strategy
physical arrangements
interactive "fine-tuning"
synectics
concept formation
concept attainment
future adaptations
direct instruction

that my ideas about the organization of course content were adapted as I interacted with a different type of student group. The clear change in complexity of thinking about teacher planning shown in the concept maps was very encouraging to me and to the students. At the end of the course, students compared their pre- and post-concept maps and wrote a short analysis of the differences they observed. They commented that they saw a shift in the focus of their thinking, an increase in the depth and detail of their ideas, an improvement in the clarity and organization of their ideas, and the introduction of new vocabulary and concepts in their final maps. This study, then, provided both students and instructor with concrete evidence of changes that occurred in their thinking as a result of participation in a particular course.

The second dissertation study (Norton, in preparation) is examining the interactive decision making of elementary and secondary student teachers through the use of stimulated-recall interviews and is investigating their conscious use of information from their preservice training in the formation of these interactive decisions. The stimulated-recall interviews were conducted in two parts. First, a lesson was played back in typical fashion and the student teacher was asked to stop the tape and comment at any point where he or she was aware of making a decision. Following this, the specific decision points identified were briefly reviewed on the videotape, and the student was reminded of his or her comments about that decision and asked, "Where did you get the information or ideas that helped you make that decision?" Data collection for this study is complete, but data analysis is still underway. Specific findings cannot be reported at this time, but some general information is available. Students do cite specific courses and professors as sources of ideas. They also refer to observations of cooperating teachers and to their own prior field experiences. Thus, they are aware of blending theory and practice in their interactive decisions.

This interview procedure is an interesting variation on the stimulated-recall procedures used in prior research and shows promise. As a researcher, I have gained some potentially useful ideas from this doctoral student's methodological innovation. As a teacher educator, I see other potential value in this interview technique. I suspect that it might make students more conscious of their use of ideas from preservice training and might combat the discouraging tendency for them to insist in later years that "everything I know I learned from experience."

The payoff of our initial attempt at coordinating the needs of preservice students, doctoral students and teacher educators has been so rewarding for everyone concerned that we are embarking on a second round this fall. Once again, I am teaching both a secondary strategies class and a doctoral course on program development. Once again, the doctoral students will conduct a study of the interactive decisions of the student teachers. This time, the study will take a slightly different focus. Because of the prior finding about student teacher concern with pupil behavior, we will use a category system that emphasizes the difference between instructional and managerial concerns. This category system was developed for use in a study of inservice teachers in the Austin area (Morine-Dershimer, 1983), and it can be used to examine complexity of thought as well as categorical emphasis. Doctoral students who wish to work with more detailed data as part of a research apprenticeship can use the system to make a number of possible comparisons. The responses of our preservice students can be compared to the responses of experienced teachers in the Austin study. The responses of 1984 student teachers can be compared to the responses of 1982 students. The responses of science majors can be compared to those of English majors and social studies majors. I expect that this study or set of studies will also generate some useful and interesting findings for teacher education research, as well as serving some of the immediate practical needs of preservice and doctoral students and their instructors.

The Taste Test

While I realize that not all teacher education programs have access to doctoral students who can engage in evaluation studies, I submit that all programs have opportunities to coordinate the needs of students and instructors for useful feedback on the learning that is occurring. Thus, I recommend that you try a taste for yourself. Techniques that have been developed for research on teacher thinking can provide information that may be particularly responsive to these needs, as well as providing additional valuable learning (or consciousness-raising) experiences for students. Many of these techniques are not terribly time consuming or complicated. Even a preliminary analysis of data can provide students and instructors with useful information. When time and resources are limited, more detailed analysis of such data can be done on a periodic basis, thus contributing to the development of our pool of knowledge about teacher education without distracting attention unduly from the demands of our essential instructional tasks. With careful planning, I believe we can all become more adept at killing several birds with one stone.

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LEARNING TO TEACH: AN EMERGING DIRECTION IN RESEARCH ON PRESERVICE TEACHER EDUCATION

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How teachers learn to teach has been the subject of considerable speculation and myth but little systematic description or inquiry. Recently, however, this area has begun to emerge as a major focus for research in teacher education. The literature on learning to teach is commonly organized around phases of teacher preparation: pretraining, preservice, induction, and inservice. Nemser's (1983) overview of this literature is summarized here.

Research on the pretraining phase has focused on how early authority figures (parents and teachers) may shape the unconscious motives of teachers (Wright & Tuska, 1968) and how extensive experience as a student instills prospective teachers with preconceptions of standard classroom practices (see, for example, Eddy, 1969; Lortie, 1975). It is often argued that these factors account for the stability of classroom practices and the conservatism of teachers.

Research on the preservice phase has focused on the limited amount of professional content and experience actually received by prospective teachers, the conflict between the theoretical character of the professional curriculum and candidates' concerns for survival and practical techniques (see Fuller, 1969), and the role and impact of student teaching (Zeichner, 1983). Copeland (1980) and Doyle (1977) have examined some of the ways in which the demands of the classroom environment shape student teaching practice and teacher information processing. Tabachnik, Popkewitz, and Zeichner (1979-80) have described the extent to which

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student teachers are constrained by the decisions of others about teaching. Moreover, they have noted that the real task in student teaching is often that of pleasing a cooperating teacher to receive a favorable evaluation.

Until recently, the induction phase of teaching has not been studied much despite the general sense that the first year is difficult and that most teachers learn their craft on the job (see Griffin & Hukill, 1983). Most of the learning during this time appears to be related to classroom management and to occur through information gained from selective contacts with colleagues. Contacts between experienced and beginning teachers are, in turn, constrained by the isolation of teachers in single classrooms, the structures and norms of schools, and differences in perspectives among teachers (see Nemser, 1983; Zeichner, 1983). Beginning teachers may also be influenced directly by students and indirectly by curriculum guides, textbooks, assignments to classes and other duties, and what Metz (1978) called the "subcultures" of the school.

Zeichner (1983) has examined institutional effects on beginning teachers. He argues that they have a degree of functional autonomy from the constraints of schools, and this autonomy enables them to maintain their own perspectives and still survive within the organization. Moreover, schools often exert contradictory pressures on teachers so that the outcomes of institutional socialization are quite varied.

The inservice phase of teaching is generally conceptualized in terms of developmental stages from early concerns about survival to more mature interests in students' learning (see Fuller, 1969). Nemser (1983) suggests, for example, that teachers go through three stages: a beginning stage of survival in which they have limited knowledge about teaching and schools; a consolidation stage in which their goals crystallize and routines become established; and a mastery stage in which classroom management routines become effective so that they can deal with emergent situations, focus on pupil needs, and the like. A model such as this is used to propose approaches to staff development that are likely to foster optimal growth.

Unfortunately, little systematic research has been done on the types of inservice experiences teachers have and what their consequences might be. Moreover, what and how teachers learn from their experiences in classrooms has not been examined extensively.

Recent work on learning to teach has been organized around the several knowledge domains of teaching, for example, subject matter, learning processes, teaching methods, and classroom structures and processes.

Special attention in research on learning to teach is being given to the content of teacher education and teaching. Nemser and Buchmann (1984) have begun to examine how teacher education students make sense of their professional courses during their first year of study and how alternative preparation programs might have different effects on future teachers' thinking about knowledge. Shulman (personal communication, 1984) is exploring ways to use grade transcripts and course syllabi to create intellectual histories that trace how teacher education students come to understand academic subject fields and how to teach them. Finally, work by Doyle, Emmer, Sanford, and Nespor is currently underway at the Research and Development Center for Teacher Education to examine how beginning and prospective teachers learn to translate the curriculum into academic tasks for students.

Researchers are also focusing on teachers' knowledge about classroom processes. Hoffman (personal communication, 1984) has examined models of reading instruction communicated to teachers (especially grouping arrangements, oral reading practice, and feedback patterns) and is exploring ways to create alternative models to achieve particular purposes in the teaching of reading. Carter (personal communication, 1984) is attempting to define the ways teachers understand and bring about the maintenance of order in classrooms. Erickson (personal communication, 1984) is exploring the formation of teachers' images and metaphors of classrooms. Finally, Copeland (1983) has developed a microcomputer technology that provides opportunities to practice real-time reasoning in simulated environments and, thus, to increase teachers' understandings of the task of teaching in classrooms.

The study of how teachers learn to teach appears to be emerging as a major specialization in educational research, and substantial progress should soon be made in understanding the knowledge domains in teaching and the ways in which these domains are acquired by prospective teachers. The continuing work in this area promises to yield rich dividends for professional practice in teacher education.

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PRESERVICE TEACHER EDUCATION:
A SURVIVAL STRATEGY

Johnnie R. Mills
Grambling State University

The survival of colleges of education (COEs) today depends, in large measure, upon the capacity to produce teachers who can demonstrate excellence in training prior to certification and employment. For some states, performance on competency tests is a significant indicator of the quality of training. For others, test scores and ratings from observers of preservice performance in the classroom serve as screening criteria.

Unfortunately, some COEs are experiencing poor student performance on competency tests, giving rise to declining enrollments, criticism from the media and the general public, the loss of faculty, and lowered morale of remaining faculty members, and increased pressure from state departments of education to improve their programs. The problem is of such magnitude that COEs across the country are faced with the threat that without change, they may have to close their doors. Minority graduates, Blacks in particular, comprise the highest percentage of those denied teaching certificates, and Black teachers are on the verge of becoming extinct in some states.

If for the sake of survival and progress, COEs are to bring about a fundamental change in the performance of their graduates, they must do three things. First, COEs must realistically reexamine the teacher training curriculum and the performance of user populations against measurable standards. Second, they must acquire resources to address the gaps between performance and desired outcomes. And third, purposeful organized activities using these resources must be consistently implemented, monitored, and evaluated. It was this philosophy that guided the College of Education at Grambling State University in developing a successful alternative approach to training preservice teachers.

Over the past four years, the COE at Grambling has increased the pass rate of its graduates on the National Teachers Examination (NTE) from less than 6% to well over 80%, consistently enjoyed an increased enrollment, and improved its public image despite stringent budgets.

How did Grambling's COE bring about these results? In part, by much hard work; administrative and faculty diligence and dedication; the use of much creative problem-solving strategies by the COE leadership; and a commitment to excellence in teacher education by administrators, faculty, and students. This paper describes the organizational change processes and activities implemented by Grambling's COE.

Grambling's comprehensive approach has significantly affected critical areas in its teacher education program. The change strategy has evolved as we searched for answers to questions raised by two COE audits: What courses and other experience contribute to teacher effectiveness in the classroom and success on competence measures as well? What experiences do faculty members need to enhance their knowledge, skills, and effectiveness? What should a prospective teacher "look like" at varying stages of professional development? What can the COE do to promote competence levels for promising preprofessionals who fail to demonstrate the required standard at admission-monitoring points? Key features of the strategy include curriculum revision, faculty development, a monitoring system, and a diagnostic program.

Curriculum revision. Efforts in curriculum revision began with an analysis of the existing curriculum in the light of research on teaching, specific competencies required on measures such as the NTE, and competencies considered absolutely essential by the COE professional educators. Subsequently, the curriculum was revamped. Generic teaching competencies were apportioned to individual courses. Work toward achieving the competencies was monitored through the evaluation of course outlines and student achievement on newly developed NTE-like tests administered in each course at the end of every semester.

Further, the COE established a systematic observation/participation program requiring a minimum of 100 clock hours of practical experiences in multicultural classroom settings prior to student teaching; instituted periodic student teaching seminars to respond to the emerging needs of students; formed special NTE study groups for students preparing to take the NTE; and installed the Education Resource Center to extend students' teaching skills, to train students in the use of educational technology (including computers), and to assist in student development of skills prerequisite to success in coursework and in the profession.

Faculty development. The COE audits also indicated a need for faculty renewal in several areas: research in teacher education, instructional accountability, and test construction. These findings prompted continuing workshops for faculty, some of which focused on increasing the faculty's (1) knowledge of student competencies required for successful performance on NTE, (2) skill in designing course syllabi and subsequent experiences that promote NTE competencies, (3) competence in designing NTE-like test items for implementation in their specific courses, (4) skill in analyzing student performance on the NTE, (5) computer literacy, and (6) sense of unity and commitment to common goals. Faculty development was advanced through special off-campus sessions based on a temporary systems design, external consultants, and small-group faculty buzz sessions during regular faculty meetings.

Monitoring system. The COE identified particular characteristics of prospective teachers that would be desirable at key points in the development of professionals. Measurable sets of characteristics were formalized as check points in a monitoring system. The monitoring process was facilitated by the use of specifically designed admission forms for each check point. The system included evaluation of students' academic grade-point averages, scores on required standardized tests, written or oral communication skills, evidence of commitment to the profession, and personal traits deemed suitable for professionals. Now as then, students must apply and be approved for admission to (1) the COE; (2) a teacher education degree program (with a minimum GPA of 2.2, an acceptable ACT score, an acceptable English and reading score, and evidence of taking the NTE General Knowledge and Communication Skills Modules); (3) advanced standing (with no academic English, professional, or specialized academic course taken); (4) advanced methods or clinical work (with all prerequisite courses and commitment to take the NTE Professional Knowledge Module); (5) student teaching (with an appropriate GPA, commitment to take the NTE Specialized Test, the minimum observation/participation hours, and prerequisite courses); and (6) graduation (with a minimum GPA of 2.5 and completion of all required work.)

Faculty performance continues to be monitored by having students assess at the end of each semester the extent to which identified competencies were addressed in each course. Additionally, at the end of each academic year, academic units and special projects are internally evaluated by nonmember peers. Students, faculty, and unit data are then integrated into a college profile for study by faculty and administrators.

Diagnostic program. The COE designed and implemented a diagnostic-prescriptive program to enhance student performance in areas of demonstrated need. Certain standardized and COE-designed tests are administered to students at the check points described above. These data are used in the development of diagnostic profiles for each candidate. Students whose profiles indicate weaknesses are counseled by department heads, screening committees, and advisors to seek one or more of the skill-development services available through the COE specifically or the university in general. Services offered by the COE include special computerized learning modules, tutorial sessions, special sources and opportunities for individual field-based observations, and critiques by faculty. Field-based instruction, practice, and critiques are implemented with the support of the COE's laboratory schools and selected schools in neighboring local systems.

As the COE's new program enters its fifth year, the satisfaction of seeing what excellence in teacher education is all about and what the COE can become through its creative action has positively affected the students, faculty, administrators, and university community. We feel that our strategy, when shared as we are presently doing, can make a significant contribution to the profession in the development of effective approaches to achieving excellence in preservice teacher education.

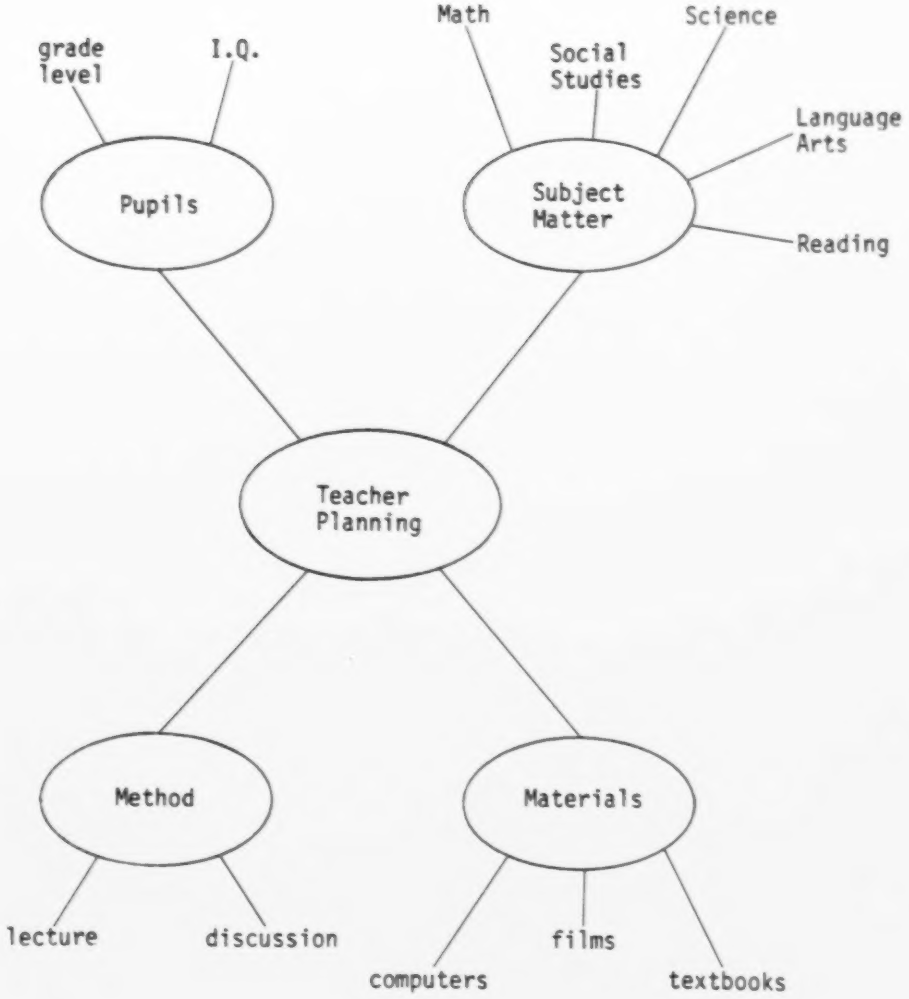
the freshman, sophomore, and junior level preservice courses were tested at the beginning and end of the fall semester of 1983, using a concept mapping procedure (Novak & Gowan, 1984). Figure 6 shows a concept map of teacher planning that might be described as fairly simple and naive because it uses very obvious organizing categories and extends only two levels from the topical concept (e.g., method is a first-level organizing category, and lecture is a second-level category). The concept map shown in Figure 7 is more complex and more sophisticated, as indicated by the terms used and the number of levels included. In addition, it indicates relationships among the major organizing categories, suggesting that elements of teacher planning are filtered through guiding principles, leading to decisions, evaluation, and possibly a new perception of the elements.

In the Beyerbach study, difference within and between groups in the terms used and differences in the number of levels included in the concept maps were examined to determine changes that might occur as a result of a particular course, as well as changes that might occur as a result of participation in the program over time. Two of the three classes showed significant pre to post changes, and students produced concept maps more similar to those of the instructors at the end of the course than at the beginning. More advanced students were more apt to adopt the ideas presented by the instructor in the class they were taking, and they also showed more similarity to each other in use of terms than did beginning students, suggesting that a common language or a common set of concepts was being gradually developed through the program. Within each class, the changes that occurred in student conceptualization were consistent with the stated goals of the instructor. For example, in the freshman course, the instructor wanted students' concepts of teacher planning to become more differentiated and hierarchical in organization, and this change was observed in the students' maps (i.e., the number of levels used increased significantly). In the sophomore course, the instructor wanted students to adopt and apply a particular theory, and students' maps changed to include the major organizing concepts of this theory as their first-level categories.

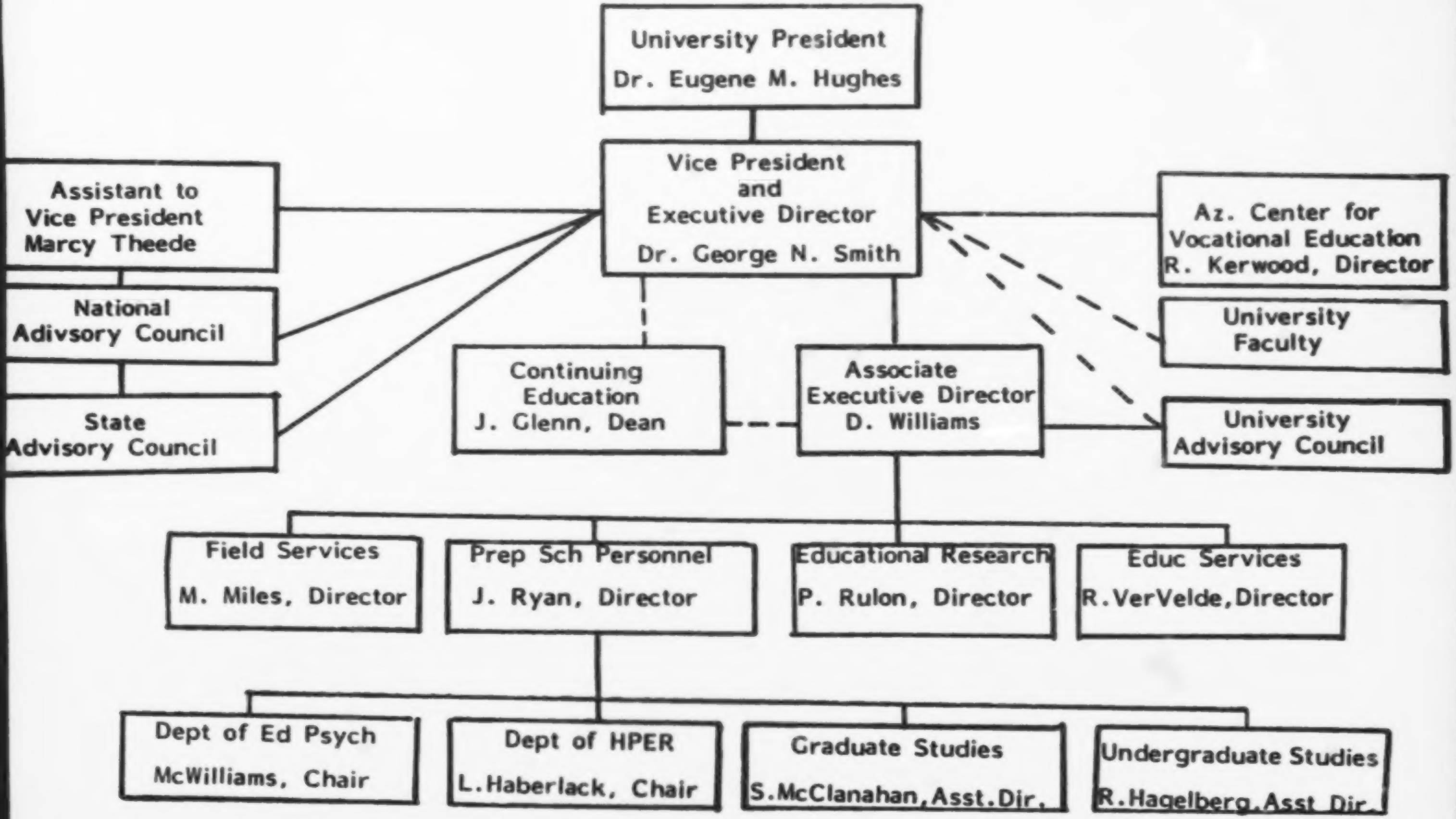
I happened to be a subject in this particular study and learned some interesting things as a result. It was the first time I had taught the strategies course to juniors in elementary education rather than to seniors in secondary education, and I was the only one of the three instructors whose pre- and post-concept maps showed clear differences. This result was objective evidence

Figure 6

Simple Concept Map


grade level
I.Q.
Pupils
Math
Social Studies
Science
Language Arts
Subject Matter
Reading
Teacher Planning
Method
Materials
lecture
discussion
computers
films
textbooks

CENTER FOR EXCELLENCE IN EDUCATION
NORTHERN ARIZONA UNIVERSITY
ORGANIZATIONAL STRUCTURE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Marcy Theede
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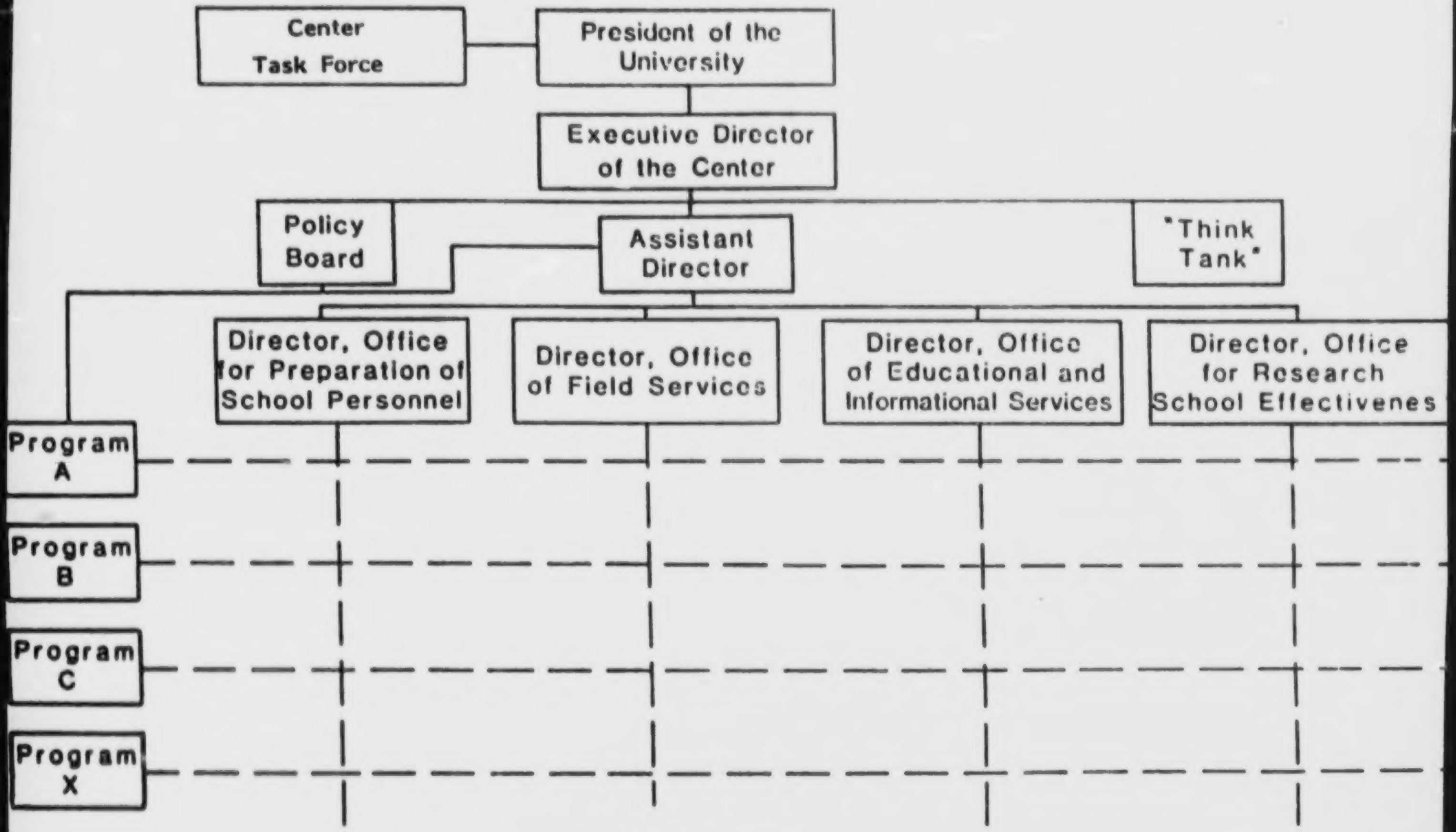
Center Task Force
President of the University
Executive Director of the Center
Policy Board
Assistant Director
"Think Tank"
Director, Office for Preparation of School Personnel
Director, Office of Field Services
Director, Office of Educational and Informational Services
Director, Office for Research School Effectivenes
Program A
Program B
Program C
Program X

Center Matrix

Advisory Council will consist of leaders from business, industry, government, education, and minority interest groups. The University Advisory Council will be made up of prominent administrators and faculty members. A major function of the councils will be to advise the center in its national, state, and university goals and activities. Additionally, it is projected that council members will be instrumental in communicating the center's mission and purpose to their respective communities.

A basic purpose of the center is to function as a "university without walls," by taking educational programs and services to remote and rural areas of Arizona or to any setting not adequately served. This network of field sites will evolve similar to county agricultural extension programs and will be coordinated with programs of the community college system, Arizona State University and the University of Arizona.

Public school personnel will have opportunities to work and study in the center and its field sites; and university personnel will be able to work in the public schools as classroom teachers, providers of new ideas, and facilitators in updating educational programs and practices. Master teachers and exemplary administrators selected from the public schools will hold joint appointments with the center and their respective school districts. During the school year, their classrooms will provide a laboratory for center students and professors. During summer sessions, selected administrators and teachers will instruct and study on the university campus or be involved in state and national academies and conferences sponsored by the center.

One-, three- and five-year plans are being articulated to manage the transitional process, goals, and implementation of the center's activities. Specific goals identified for the first-year transitional stage include the following:

A. Programmatic Areas

1. A comprehensive review of the undergraduate and graduate preparation of school personnel programs will be completed by July 1985. A plan and timeline will be defined to develop and implement revised undergraduate and graduate preparation programs.
2. Program voids will be addressed to insure appropriate course offerings in preparation of school personnel (e.g., educational technology and bilingual-multicultural education).

3. A center policy will be defined to provide for students' Arizona Teacher Proficiency Exam deficiencies.
4. Improved counseling services will be provided to address student academic needs and program/career planning decisions.
5. A comprehensive decision package will be submitted, which includes:
    a. Educational services
    b. Educational research
    c. Preparation programs for school personnel
    d. Field services activities
    e. Major undergraduate and graduate student scholarship and recruitment programs
    f. Guest lecture series bringing professionals of national prominence to Northern Arizona University
    g. Establishment of a faculty resource, instructional design, and educational technology center.

B. Faculty Development and Evaluation

1. A comprehensive staff development program will be defined and implemented to insure excellence of curriculum and instruction in center preparation programs on and off campus.
2. Systematic procedures will be implemented to coordinate closely the on-and off-campus curriculum and instruction programs with those of other colleges and schools, bringing a new balance to the "what" and "how" in education.
3. A systematic and accountable faculty evaluation system will be established based on individual assignments (workload per semester) defined as a cycle to include teaching, service, research, and contributions to CEE development and implementation activities.
4. The CEE faculty evaluation system will apply the criteria in the faculty handbook and provide systematic application of the promotion and tenure requirements as an accountable evaluation system.
5. Center personnel will participate in selected local, regional, and national professional associations and conferences.

The Center for Excellence in Education was created in an environment that could be described as complex, unstable, diversified, and somewhat hostile. The governor had appointed a task force to investigate the colleges of education in the three state universities. However, Northern Arizona University's proposal to institute radical structural change in its College of Education by creating the Center for Excellence in Education diffused some of the hostility.

This change to a leadership-team/matrix structure was designed to decentralize preparation programs so that appropriate colleges/departments in the university could effectively participate in the center's functions. Additionally, it was organized to establish a working relationship with the public schools of Arizona and to promote the involvement of business and industry. The Arizona Board of Regents perceives my dual appointment as Executive Director of the Center and Vice President of the University as an organizational strategy to provide administrative access to all faculty within our state university system. Administering faculty assignments and quality control of the curriculum and instruction of our on- and off-campus programs are major administrative priorities. We will focus on identifying, recruiting, preparing, placing, and retaining the highest quality of personnel for our education system. Individuals unable to achieve success according to center standards will be counseled into other academic areas.

Our three- and five-year plans will emphasize accountability in implementing initial goals, expanding our activities, and maintaining a contemporary awareness of educational needs. A basic intention is to apply administrative, leadership, and scholarship skills to prevent the Center for Excellence from becoming a "catch up" vehicle. We will assert a position of anticipation and preparation in response to our fast-paced age of technology and information explosion. We will prepare our students to meet their adult responsibilities, and we plan to be accountable in that endeavor. Likewise, we will assist the public in understanding students' needs and recognizing their role in supporting our educational system.

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INDUCTION TEACHER EDUCATION

Teacher educators distinguish the induction period of teacher training as the first, second and/or third years a beginning teacher is in the classroom. Across the country, policymakers have reacted to the public outcry regarding the quality of our teachers by assuming the role of "gatekeeper of the profession." As a result, legislative mandates that monitor the progress and skills of the new teacher are becoming commonplace. Defining the relationship of institutions of higher education, local districts, and state agencies to induction is critical if teacher educators are to deliver quality teacher induction programs to beginning professionals.

Questions such as the following are becoming commonplace as more and more states take an active role in the education and monitoring of beginning teachers: (1) What do model programs of induction propose to do? (2) What is the research base for such programs? (3) What are the criteria for selecting mentor teachers? (4) How are they selected and trained? and (5) How are induction programs funded?

In an effort to understand these and other difficult issues, policy developers, teacher educators, and researchers describe their experiences and offer solutions and opinions with regard to the induction stage.

Induction Plenary Presentations

POLICY
Charles McDaniel, Superintendent
Georgia State Department of Education

RESEARCH
Gary A. Griffin, Dean
College of Education, University of Illinois at Chicago

PRACTICE
Phillip C. Schlechty, Professor of Educational Administration
University of Louisville
Executive Director, Gheens Center for Professional Development
Jefferson County Schools, Louisville

In "Performance-Based Certification in Georgia" McDaniel describes the Georgia teacher certification program with its dual emphasis on knowledge and performance. He discusses the program in detail, including the developmental efforts, the assessment instruments, the certification tests, on-the-job assessment, staff development, and the evaluation and results components of the program.

In his paper, "Teacher Induction: Research Issues," Griffin discusses the current state of research on téacher induction, how that research may be appropriately and inappropriately utilized for educational policy development, and some directions for future research on teacher induction.

In "A Framework for Evaluating Induction into Teaching," Schlechty sets forth his understanding of what an effective induction system should achieve, identifies characteristics of induction systems that seem to be most effective, and describes the efforts of the Charlotte-Mecklenburg Schools in North Carolina to develop an induction system that is roughly congruent with his described characteristics.

Induction Concurrent Presentations

POLICY

Lester M. Solomon, Director of Teacher Assessment
Georgia State Department of Education

Thomas A. Newton, Administrator, Teacher Preparation Programs
Oklahoma State Department of Education

RESEARCH

Hilda Borko, Associate Professor
Virginia Polytechnic Institute and State University

Kenneth M. Zeichner, Associate Professor
University of Wisconsin

PRACTICE

Kevin Ryan, Professor
Boston University

Richard E. Dudley, Chair
Doane College

Solomon explores the performance-based certification process in Georgia for beginning teachers. In, "Beginning Teacher Assessment and Assistance: Implementation and Results," he gives a detailed account of four teacher induction steps: orientation, observation, feedback, and staff development.

Newton in, "Oklahoma Education Reform" describes the manner in which the Oklahoma Legislature has been active in outlining educational policy concerning teacher education and certification. Newton also briefly describes the Entry-Year Assistance Program that was developed in response to House Bill 1706.

In "Virginia's Beginning Teacher Assistance Program: Applying Research to Teacher Assistance and Assessment," Borko describes three developmental phases of Virginia's Beginning Teacher Assistance Program: Phase I, in which the conceptual models or designs for the program were grounded in research on teaching, staff development, and teacher evaluation; Phase II, in which preliminary plans for the assessment and assistance components were developed; and Phase III, in which field-testing materials and operational procedures are being developed into a beginning teacher handbook.

In "The Wisconsin Study of Teacher Socialization: Implications for Policy, Practice, and Research," Zeichner describes the findings and implications of a two-year longitudinal study that examined the development of teaching perspectives by four beginning teachers from two vantage points. He details the methodology employed in the study findings from both phases of the study, and draws implications for both policy and practice as well as for future research.

"Beginning Teachers: Parachutists Behind the Lines May Be in Need of a Chaplain" contains descriptions of teacher educator Ryan's induction experiences with beginning teachers and the dilemmas he has observed in induction activities. Ryan offers a hunch that they need "religion," i.e. consideration of new teachers' motivations and meaning systems as a way of addressing them as "a whole person."

In "Beginning Teachers: A Support System and a Warrant of Skills," Dudley describes the support system for first-year teaching graduates and the warrant of beginning teacher skills recently implemented at Doane College. The support system is intentionally designed to maximize input from other professionals early in the beginning teacher's experience. In a written statement to hiring districts, Doane College delineates those areas in which it "guarantees" that its graduates have sufficient preparation to meet the rigorous demands of the teaching profession.

PERFORMANCE-BASED CERTIFICATION IN GEORGIA

Charles McDaniel
Georgia State Department of Education

The quality of public education has been a continual topic for the news media. Recently, several national reports on public education have seriously challenged the quality of educational opportunities being provided for children. A Nation at Risk, prepared by the National Commission on Excellence in Education (1983) for the U.S. Department of Education, the report, Action for Excellence (Task Force on Education for Economic Growth, 1983), as well as Making the Grade, a report from the Twentieth Century Fund's Task Force on Elementary and Secondary Education Policy (1983), have all expressed concern for the quality of public education. Falling SAT scores and other measures of student achievement have added to the increasing concern of parents, businesspersons, legislators, and educators. Given the media's negative focus on public education and the public's increasing concern for quality, it is important that clear indications of progress, commitment, and success be made by those involved in public education.

It is generally agreed that formal training alone does not produce a competent, capable worker. To promote quality and ensure at least minimum competence, most trades and professions require some form of licensure based on a test of competence. This requirement is true of physicians, lawyers, plumbers, cosmetologists and many other trades or professions. But in the past, this has not been true for teachers. Education associations and agencies have been reluctant to assume responsibility for determining the competence of teachers. The responsibility to ensure minimal competence ultimately falls to the licensing agency. As in most other states, the licensing agency in Georgia is the State Board of Education.

Developmental Efforts

Recognizing the need to provide assurance of minimal competency for licensure, in the late 1960s, the Georgia Board of Education began developmental efforts in competency-based teacher education and performance-based teacher certification through the Georgia Department of Education. This direction for the department first emerged in a needs assessment conducted in Georgia beginning in 1968. In 1972, the state superintendent of schools announced that one of the 23 missions for the department of education was to certify personnel on the basis of demonstrated competency.

In 1975 an advisory group to the state board, the Teacher Education Council, recommended that the State Board of Education adopt policies providing that issuance of the initial teaching certificate be based on two criteria: a satisfactory score on a knowledge test external to the preparation process and completion of an approved teacher education program. The council further recommended that the renewable certificate be based on demonstrated performance and not merely on experience or a master's degree. The council proposed that these policies become effective on September 1, 1978. The State Board of Education accepted the recommendations and adopted the appropriate policies.

The Georgia Teacher Certification Tests were developed and validated to be job related and to reflect the minimum content knowledge necessary to teach in each certification area in Georgia classrooms. Priorities among objectives and examination content as well as minimum cutoff scores, were determined by committees of outstanding Georgia educators in each of the certification fields. Items measuring the objectives were reviewed by the committees for item-objective content match, content accuracy, lack of bias, and minimal competency. A statewide job analysis was conducted to determine the relative importance of each objective and the amount of time spent in teaching it.

The certification examinations are tailored to job requirements in the public schools of Georgia. They are not designed to be a summative evaluation of applicants' college preparation but rather tests of grade-level subject matter that teachers would be expected to know in order to be minimally competent to teach. The items on the examination are relevant to the subject matter to be taught. Through a request for proposal, National Evaluation Systems, Inc., was selected to receive a state-funded contract in November 1975 to develop the tests, working with a Georgia ad hoc committee of public school and college teachers in each of the teaching field areas.

Through another request for proposal, the University of Georgia began a state-funded contract in April 1976 to develop the components for the state-designed system of assessing teaching competency on the job. More than

4,000 teachers, administrators and college professors were involved in identifying an initial set of 20 generic competencies essential for all subgroups, i.e., across grade levels, teaching fields, and job settings. This set of 20 competencies was the basis for the development of instruments to guide the assessment of teaching behaviors.

The Assessment Instruments

The Teacher Performance Assessment Instruments (TPAI), composed of the Teaching Plans and Materials instrument, the Classroom Procedures instrument, the Interpersonal Skills instrument, the Professional Standards instrument, and the Student Perceptions instrument, were field-tested across the state from fall 1977 through spring 1980. During the field-tests teachers and administrators used the instruments to assess students and beginning teachers. The results of these field tests plus feedback from teachers assessed, teachers and administrators who used the instruments, and various reliability and validity studies reduced the number of competencies addressed by the TPAI to 16, and 14 of these were to be required for certification. The 14 competencies currently assessed are as follows:

I. Plans instruction to achieve selected objectives.

II. Organizes instruction to take into account individual differences among learners.

III. Obtains and uses information about the needs and progress of individual learners.

IV. Refers learners with special problems to specialists.

V. Obtains and uses information about the effectiveness of instruction to revise it when necessary.

VI. Uses instructional techniques, methods, and media related to the objectives

VII. Communicates with learners.

VIII. Demonstrates a repertoire of teaching methods.

IX. Reinforces and encourages learner involvement in instruction.

X. Demonstrates an understanding of the school subject being taught.

XI. Organizes time, space, materials, and equipment for instruction.

XII. Demonstrates enthusiasm for teaching and learning and the subject being taught.

XIII. Helps learners develop positive self-concepts.

XIV. Manages classroom interactions.

Each competency is defined by two to five performance indicators. For example, for competency VII, "Communicates with learners," some of the indicators are as follows:

4. Gives directions and explanations related to lesson content.

5. Clarifies directions and explanations when learners misunderstand lesson content.

6. Uses responses and questions from learners in teaching.

7. Provides feedback to learners throughout the lesson.

Each indicator is scored on a five-point scale. For example, for indicator 7, "Provides feedback to learners throughout the lesson," the scale of descriptors is as follows:

1. Accepts learner comments or performance without feedback about their adequacy.

2. Responds to negative aspects of student work, but makes few comments about positive aspects.

3. Informs students of the adequacy of their performance. Few errors pass by without being addressed.

4. Helps learners evaluate the adequacy of their own performance.

5. In addition to 4, the teacher probes for the source of misunderstandings which arise.

The Certification Tests

The Georgia Teachers Certification Tests (TCT), implemented in 1978, are used to determine whether prospective teachers possess essential knowledge in their respective teaching fields. Twenty-eight tests covering 49 certification fields have been developed. They are administered three times each year at five sites over the state. A registration fee of $35, which accompanies the registration form, is sent directly to the testing contractor. Registration bulletins, copies of test objectives, and study guides for the various tests are widely available.

It is recommended that prospective teachers take the TCT during the senior year of the college or university teacher education program. At the request of an employing superintendent, an initial one-year certificate can be issued even though an applicant has not posted a passing score on the appropriate TCT. This provision is primarily an escape valve for teachers coming into Georgia at the last minute who have not had an opportunity to take the TCT. Those who do not pass the test within the one-year validity period are not issued another certificate.

With the development of the Teacher Certification Tests and on-the-job assessment employing the Teacher Performance Assessment Instruments, the state was set to implement performance-based certification. The test and assessment requirements applied to teachers completing preparation after May 1, 1980. The two performance-based components addressed two primary objectives:

1. To ensure that teachers can demonstrate minimum competency relative to subject knowledge and minimum performance in an on-the-job setting.
2. To extend preparation into the initial years of employment.

In 1983, the Georgia University System Board of Regents strengthened the preservice phase of the state's teacher education program by adopting a policy of placing on probation college teacher preparation programs whose students fall below a 70 passing rate on the TCT. Response from the colleges has been positive; many have restructured their curricula and are paying more attention to student results. The probationary institutions are required to submit a remediation plan.

On-the-Job Assessment

On-the-job assessment focuses on teachers' capabilities to organize, plan, and implement instruction as well as to manage the classroom and relate to students. Assessment is coordinated by a state-funded, statewide network of 17 regional assessment centers. The centers are staffed with professional educators, most of whom have come directly from classroom teaching. Their responsibilities include the following:

1. Providing teachers with an orientation to the assessment process prior to the actual assessment.
2. Coordinating the actual assessment process by scheduling, selecting team members, assessing teachers, and compiling and processing assessment data.

3. Providing feedback to teachers through interpretation of the assessment results and delivery of a performance profile.

On-the-job assessment is a requirement for all teachers who enter the profession. Teachers are provided three years or six assessment opportunities to demonstrate proficiency on all 14 competencies necessary to receive a renewable performance-based teaching (PBT) certificate. Individuals who receive the PBT within the first two years receive extra step(s) on the state salary schedule. This advancement policy makes Georgia the first state in the United States to award performance-based compensation.

The state has a provision that allows teachers to waive an assessment opportunity. If for a specific reason a teacher wishes to forego an assessment, the teacher contacts the area regional assessment center and files a request. Out of the six opportunities offered to each teacher, the waiver of an assessment opportunity results in the permanent loss of one scheduled assessment as well as the loss of the privilege to combine the results with those of a previous assessment. The department does not advise waiving an assessment, but it is permitted and is the wise choice under some circumstances. Teachers who are sure that they will be leaving the state or the profession may elect to forego the assessment.

Each of the assessment instruments is scored independently by a three-member team selected by the regional assessment center and composed of an administrator and a peer from the local school system and an external data collector from the regional assessment center. At least one member of this team must hold a current, valid certificate in the same field as the teacher being assessed. Each person on the assessment team carries out the following responsibilities:

1. Individually reviews and studies the portfolio of the teacher being assessed and prepares for interviewing the teacher.

2. Participates in an interview of the teacher being assessed.

3. Individually observes, at a predetermined and agreed upon date and time, the teacher being assessed as he/she teaches from the portfolio submitted.

4. Submits assessment data to the regional assessment center for processing.

5. Maintains the confidentiality of the assessment data.

To participate on an assessment team, administrators, peers and external data collectors must be trained to use the instruments and must meet proficiency requirements in use of the instruments. The training requirements include 50 hours of instruction and practice with the instruments in the field. In addition, trainees may be required to prepare a portfolio and be assessed. No one serves on an assessment team for certification purposes without meeting current state training requirements. In addition, annual update training is provided and interrater agreement checks are conducted to help maintain accuracy and skill in using the instruments.

The state assessment calendar is based on a school year of 190 contract days and 180 teaching days. Orientation to the assessment process is normally provided by the regional assessment center within the first 30 days of the contract period. For most teachers, this event occurs during preplanning. The fall assessment period begins after the first 20 teaching days, although the first assessment must begin after the first 30 teaching days. A minimum of 50 teaching days must occur between a fall and a spring assessment. Spring assessments begin on the 110th teaching day. No assessments are scheduled during the last 10 teaching days.

The assessment of an individual teacher is scheduled in advance with the teacher's participation in identifying the class and the times for assessment. The actual assessment period is based on the teacher's development of a 7- to 10-day set of lesson plans or portfolio. Since a due date for the portfolio is part of the scheduling process and is agreed upon in advance, and since the portfolio is a major component of the assessment requiring careful study by all team members, it is imperative that the complete portfolio be submitted by the due date. A team interview and three individual observations are scheduled to take place during the first five days of the portfolio period. The one-hour interview occurs first, during which the three assessment team members question the teacher about teaching plans and materials. Subsequently, each member of the assessment team, separately and on different days, observes the teacher for a full class period during the portfolio period. Teachers in elementary grades are encouraged to plan for and schedule periods longer than the 30-minute minimum, as it is often difficult to demonstrate within this limited time frame all of the teaching behaviors addressed in the two observation instruments. All assessment activities must be conducted while teachers are teaching in a field in which they are certified.

Although the regional assessment center is responsible for scheduling all assessment-related activities, teachers may choose the time of day for classroom observations. In addition, teachers also choose the class for whom the portfolio will be prepared and in which the observations will occur. The class chosen must be in a subject area within the teachers' field of certification. Allowing these elements of choice enables teachers to develop a portfolio or plan a unit that is an integral part of their instructional program.

The regional assessment center processes all assessment data and develops a performance profile for individual teachers. This profile and a certification summary are a compilation of data from all three members of the assessment team. Center personnel deliver and interpret the profiles in a conference to help assessed teachers understand the results and their status in relation to the performance requirements. The performance profile shows all ratings but presents them in a scrambled manner. The center maintains confidentiality of performance profiles and does not reveal individual ratings. A copy of the performance profile is released to a local school system or other agency designated to provide staff development opportunities for the teacher assessed. In addition, performance data are released to a college or university attended by the assessed teacher to be used for program evaluation. If teachers do not wish the data to be released to the local school system or college or university attended, they must give written notification to the assessment center.

It is only at this point--the provision of staff development based on assessed needs--that colleges become involved in Georgia's assessment process. During the development and implementation of the entire program, efforts were purposefully made to separate the preparation and assessment phases. The idea was to establish, through the TCT and the TPAI, an external check on the preparation program.

Colleges are encouraged, however, to become involved in staff development for assessed teachers. In many instances, college people are working closely with local school districts and with Georgia's regional agencies and cooperative education service agencies to provide staff development based on assessed needs. Ideally, master's degree programs would also be based on assessed needs.

If a teacher does not demonstrate mastery on all 14 competencies, the next scheduled assessment will be a partial assessment addressing those competencies of which the teacher has not demonstrated mastery. The requirements and the exact procedures to be followed are determined by the nature of the competencies to be assessed. The regional assessment center provides teachers with an individual orientation and establishes clear directions for the partial assessment, based on a new portfolio or a different instructional unit. Submission of a portfolio used in a previous assessment invalidates the assessment.

The majority of teachers require more than one assessment to meet certification requirements. For example, of all teachers assessed for the first time during the fall of 1982, 27% demonstrated mastery of all 14 competencies on their first assessment. Similarly, of all teachers assessed for the first time during the fall of 1983, 28% demonstrated master of all 14 competencies. Additional assessments were required for the remaining teachers to meet certification requirements. Generally, by the end of the second assessment or the end of the initial teaching year, approximately 75% of the teachers successfully complete the assessment process. For those who do not, additional assessment opportunities and staff development are available.

Staff Development

The Georgia Department of Education provides funds to local school systems for teacher staff development based upon the needs of teachers identified through on-the-job assessment. The performance profile, which reflects all the data gathered in the assessment process, provides a clear delineation of areas of strength and areas in which a teacher may need assistance to improve specific teaching skills or techniques. Thus, first-year assessment becomes a vehicle that allows teachers to improve the teaching skills acquired in their preparation program, to develop new skills and techniques, and generally to improve their capabilities to provide effective instruction. The responsibility for providing teacher staff development rests with the local school system, not with the regional assessment center. The center can help teachers identify agencies in their areas that may provide assistance, but execution of a staff development program is the responsibility of individual teachers and local school systems.

Evaluation and Results

More than 6,000 Georgia educators have been involved in on-the-job assessment of beginning teachers. The group includes beginning teachers, peer teachers, and administrators on assessment teams; school system liaison personnel; and regional assessment center data collectors.

Beginning teachers consider the information provided at their orientation to be adequate and the regional assessment center personnel to be prepared and knowledgeable. During their interview, they feel that there is an effort to put them at ease and to give them an opportunity to explain their teaching plans. After their assessment is completed and a profile of their performance is generated, they are provided an interpretation session. They indicate that it is clear and informative and that there is information on staff development resources. These conclusions are supported with 90% or better positive responses.

Peer teachers and administrators say that their participation in the assessment process gives them a better awareness of the basic skills of teaching and that their school system uses the results for teacher growth. This group indicates that the overall process is worthwhile, with 95% positive responses. School system liaison personnel and data collectors from the regional assessment center evaluates the assessment process with more that 95% positive responses.

The Georgia Teacher Certification Test and the on-the-job assessment program have been extremely beneficial to Georgia. This pioneer effort has had some problems but many successes. Many who were concerned about the program in the beginning are now among its strongest advocates. I believe that teachers in Georgia classrooms today are better prepared than ever before and that they are the key to the significantly improved student performance we have seen in recent years.

The Georgia plan may not be the answer for everyone; we designed it to meet the needs of our particular situation. We are constantly evaluating, revising, and improving the procedures, and this process will continue. After using the test for six years and the assessment for four years, we feel very comfortable with the combination. What we have learned will undoubtedly be helpful to us as we work in the next few years toward implementing the career ladder proposed recently by the Governor's Education Review Commission.

Georgia's performance-based certification process of assessment, feedback, supportive supervision, and staff development is a pioneer, creative, and comprehensive approach to the controversial nationwide problem of teacher competency evaluation. It has received extensive press coverage and national recognition. Education officials from many other states have shown interest in the program, and several, including Mississippi, Alabama, Arizona, South Carolina, and Oklahoma, have adopted part of the state's testing and assessment procedures or instruments. Florida, Tennessee, and Maryland, among others, are drawing from Georgia's pioneering efforts in developing their own teacher evaluation and certification programs.

The Georgia certification program has set a national standard for teacher competency measurement with its dual emphasis on knowledge and performance. A recent National Institute of Education report (Andrews, 1985) closes with this statement: "One could conclude that Georgia planted a seed that has grown and is spreading." While the program is based on objective judgement, it also has a backbone of support for the teachers it serves. These elements, along with the program's careful and responsive development, have ensured the success of performance-based certification with government officials, the education community, the teachers who undergo the certification process, and, most important, the public.

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TEACHER INDUCTION: RESEARCH ISSUES

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In 1984, reports on schooling have inundated the profession and have influenced media attention given to the schools. Newspapers and popular magazines have focused on what they term "the failure of the schools," and the federal government has made a token investment in finding out the degree to which the criticisms are valid by funding commissions on schooling and teacher education. Most importantly, there is generalized public dissatisfaction with the quality of public elementary and secondary educational opportunities.

It has been obvious to many in the schools and universities that attention to the quality of classroom life would eventually shift to the quality of teacher education programs. Although one might argue that teachers and their behaviors are but one piece of a complex puzzle, the public role of the teacher is a convenient target for those who are dissatisfied with the outcomes of schooling. And, it is logical to assume that if teacher quality is at issue, the quality of education provided to teachers will also be at issue.

One aspect of teacher education is assistance of the beginning teacher, that person who is making the transition from student of teaching in a college or university to full-time teacher in an ongoing elementary or secondary classroom. The current catchword for the period during which this transition occurs is induction.

The available research on new teachers and induction programs for new teachers has serious limitations, and we are also faced with a number of difficulties in applying that research to the development of new induction programs. However, we can increase our knowledge about teacher induction and develop induction programs with a greater certainty of success if we ask effective research questions and use an appropriate blend of qualitative and quantitative research methods to answer these questions.

Research Available for Use in Induction Programs

The above heading is purposefully used. It could have read, "Available Research on Induction Programs." However, there is very little such research. The first years of teaching have received research attention only recently in this country, although they have been more extensively studied in Great Britain and Australia.

What we in the United States have done is to use research findings from studies of other educational and teaching phenomena as bases for making decisions about induction programs. In addition to findings derived from inquiry into educational issues, we have also turned to research, theory, and propositions from related social science fields such as sociology, psychology, and anthropology.

McDonald (1980) noted:

> We have little information about how teachers pass through the transition stage, other than to know that some apparently do so successfully, some do not. We have no detailed information on how those people who master the transition period do so. Nor do we have information on how different kinds of assistance or help directly or indirectly influence the teachers' successful mastery of the induction period. (p. 44)

We can and should make a distinction between research that describes the experience of new teachers and research that gives attention to the influence of intentional interventions on the lives and work of new teachers. Most of us are aware of the self-reported horror stories recounted by new teachers and by teachers who remember their first years in classrooms. Some of these self-reports are the products of disciplined inquiry, others are not.

Research on new teachers has concentrated primarily on what might be called "the adjustment phenomenon." That is, research questions and procedures examine the degree to which new teachers "fit" into their new role and context. These studies tend to be problematic because they simply describe the frustrations, fears, anxiety, and dilemmas that new teachers face. Ryan, Newman, Mager, Applegate, Lasley, Flora, and Johnston (1980) presented findings that approximate this mode. The findings point out the frustrations of new teachers, the difficulties associated with accommodating personal and professional lifestyles, the enormous time and energy demands made upon new teachers, the feelings of being on the "low end of the totem pole," and the general powerlessness that new teachers associate with their roles in the classrooms and schools. More implicitly than explicitly, the Ryan et al. (1980) study demonstrates the absence of carefully designed programs aimed at ameliorating the reported dilemmas of new teachers.

One way to look at the entry of new teachers into the school is to consider it from the perspective of socialization into the norms and standards of an existing organization. Lacey (1977) used this approach and found that new teachers are quick to respond positively to the norms of the schools in which they find themselves and, in fact, abandon the norms, standards, and expectations of the preservice teacher preparation programs from which they have come. This study and others demonstrate the power of the school setting to transform rather than use the knowledge and skills included in professional preparation courses of study.

In some instances, research shows that this abandonment is either temporary or resisted from the start. The research is not clear as to whether these conditions are the consequences of particularly strong preservice programs or the results of a clash between the school culture and the personal predilections of new teachers. It is possible to hypothesize that, as Goodlad (1983) has asserted, teachers teach as they were taught in elementary and secondary schools rather than as they were told to teach in college and university programs of study. Alternately, one could also hunch that some new teachers have developed strong belief systems that force them to ignore the norms of the schools in which they demonstrate their first years of full-time teaching. Regardless of these conjectures, however, the research is relatively clear that new teachers are not as powerfully influenced by higher education programs as might be expected or desired.

Two studies (Edgar & Brod, 1970; Mahan & Lacefield, 1978) offer some explanation for the abandonment of preservice standards. Both studies showed that new teachers are strongly influenced by people in the new school settings. This specificity allows us to conjecture that linking new teachers with the best professionals in the settings may result in recreating quality performance in the new teachers. The idea that new teachers are influenced by persons already in the schools runs somewhat counter to the finding that "many new teachers function in a professional desert, abandoned by the institutions where they received their preservice education and neglected by overburdened supervisory personnel" (Howsam, Corrigan, Denemark, & Nash, 1976, p. 101). What we see from research, then, is that, on the one hand, teachers can be unsystematically influenced by teachers and administrators in the schools where they begin practicing their teaching skills and, on the other hand, they can believe that they are abandoned and helpless in the face of the complexities of teaching.

Much of the research on first-year teachers has focused directly on teaching activities and particularly on levels of competence. Along with the popular press, research findings more often than not conclude that new teachers are less competent than is considered to be desirable. Johnston and Ryan (1983) identified four common problem areas for new teachers: planning and organization, evaluation of students' work, motivation of students, and adjustment to the teaching environment. This list is not surprising to either practitioners or higher education academicians. Pigge (1978), for example, found that teachers in general have concerns similar to the Johnston and Ryan problem areas. In fact, classroom management is the focus of the largest number of studies of new (and experienced) teachers.

Again, much of the difficulty in using these and other findings lies in the source of the data used to advance them. Most often the results are based on self-reports of teachers. Self-report is, of course, an important source of information about teaching but it does need more objective data to support it. If teachers report that they have important problems during their first years of experience, and researchers and other perceptive observers agree, the question arises, what systematic means to ameliorate the problems are adopted by teacher education institutions?

Until recently, few examples of new teacher programs were available for study. Tisher, as recently as 1979, proposed a set of questions that might guide study of such programs:

> What impact do different types of school environments have upon the induction experiences of different types of beginning teachers? What are the relationships between beginning teachers' latent culture and features of the school environment including its organizational characteristics, staff collaboration and morale and collegiate professionality? (p. 10)

These, and others like them, are important questions. They are, however, normative; they ask for answers in the absence of an intentional intervention to deal with the issues they identify. Given the current interest in formulating and implementing state and local programs for new teachers, other questions may also be helpful as we try to understand the first years of teaching and make those years an experience that can contribute to the development of an effective cadre of teachers in our nation's schools.

Colleagues at the Research and Development Center for Teacher Education grappled long and hard as they began to study two in-place state induction programs. The results of their thoughtful interactions form a set of questions that are both normative and evaluative. They not only describe the programs and suggest relationships between the descriptions, but they also examine the relative effectiveness of certain program interventions in accomplishing their goals.

Recognizing that the emerging induction programs are, more often than not, the consequence of policy decisions made by state legislatures, the Research in Teacher Education (RITE) study is examining the effects of these policies at state, district, school, and classroom levels of activity. The RITE study, like many others before it, also gives attention to the feelings, perceptions, and activities of the people involved at all of the levels. This broad conceptualization will allow discussions that heretofore have received relatively short shrift. For example, the RITE study will be able to examine not only how effective a strategy for working with new teachers is on its own terms, but also what unanticipated consequences it has on people, for example, or on the redistribution of institutional resources.

It is much too early to present with any certainty the results of the RITE study, but preliminary hunches can be stated with the understanding that they are still open to verification. These hunches include the following:

> Teacher induction programs place unaccustomed demands upon school officials and teachers, demands which are often in addition to rather than instead of conventional responsibilities.
>
> New teachers, in the main, agree to program requirements even when they express mild or strong reservations about those requirements.
>
> The RITE sample shows little evidence that the programs are directly related to observed competence of new teachers' instructional activity.
>
> Induction program dimensions are often seen as positive resources to experienced teachers, especially if they are derived from research.
>
> The more technological/methodological the program is, the more difficult it is to achieve fidelity with the original intentions of the program.
>
> New teachers tend to perceive program dimensions as different from their preservice programs.
>
> Implementation problems include the training of experienced teachers to assume the roles of peer teachers, provision of time for new

teachers and support team members to interact, development and appropriate use of observation schedules and other data collection procedures, and differences in interpretation of program requirements among participants.

Research on teaching has achieved a respected and valued status in school systems and schools.

The validity and reliability of instrumentation is open to question.

No teachers in the RITE sample were denied certification as a consequence of program implementation.

While these preliminary findings are tentative and represent only a fraction of the information that will be forthcoming from the RITE study, they do illustrate the difference between research that examines new teachers who are receiving little systematic attention and research on new teachers who are being assisted by the power, authority, and, in varying degrees, resources of the educational system. (For more information about these studies, see Griffin, Barnes, Defino, Edwards, Hoffman, Hukill, & O'Neal, 1983.)

Using Research Findings in Induction Programs

Much of the content of many current induction programs, especially those tied to certification of new teachers, is drawn from the past two decades' worth of research on teaching. That is, the research on effective teaching is used to derive a set of standards for new teachers to meet, and if they are not met, interventions are designed to assure that the new teachers come up to the expected standard.

This use of research findings has many virtues. Among them are the growing awareness that research has some utility beyond adding to a college professor's vita, the focus on teaching, the classification of teaching functions into conceptually cohesive behaviors, and increased sensitivity to the need to tap our knowledge base when making instructional and other important decisions.

However, several dilemmas are associated with using research on teaching findings as the central core of induction programs. These dilemmas arise partly out of the body of research itself and partly out of the use to which the research is put.

In regard to the research itself, much research is correlational. That is, the teaching behaviors associated with positive pupil outcomes were discovered in existing classroom settings. They were, if you will, naturally occurring phenomena in an untampered-with context. Few studies have been designed to determine if the same behaviors, when introduced experimentally into classrooms, result in the same pupil outcomes. We are, then, still on uncertain ground when we require that new teachers demonstrate effective teaching as described in correlational research studies.

Also, much of the effective teaching research is situation specific, tied to certain grade levels with certain student populations in specific demographic and social contexts. Therefore, the results may not be generalizable to other situations. Because a teaching behavior is found to be related to positive pupil outcomes in a third-grade, inner-city mathematics class is probably insufficient reason to include it as a standard for a new teacher to achieve in a suburban, eleventh-grade social studies class.

Another, and, to me, more important issue or dilemma is the restriction of standards for new teachers to those that can be supported by research. In some areas of the country, policy makers appear to have an almost mystical reliance upon research as the basic if not the only foundation upon which to construct programs for new teachers. This is, I believe, a mistake, not only because of the inappropriate use of research findings, but also because of the narrow focus of much of the research and the unrealized potential of using other sources of information to include in teacher induction efforts.

There seems to be an ever-increasing trend toward "forcing" teaching into a science. We are all aware of the continuing debate about whether teaching is an art or a science. Many induction programs tend toward taking a scientific point of view. Many of us in both the research and the practitioner communities prefer, however, to "mix and match" our perspectives according to what we perceive as the needs and possibilities inherent in educational situations. Certainly, it is appropriate to use scientifically-derived principles of teaching effectiveness when the application of these principles makes some practical and conceptual sense. To apply them across the board, however, smacks of a new kind of fad.

Programs designed to help new teachers become proficient should include not only the appropriate scientific bases but also knowledge that emerges out of collective understandings of the craft--out of practices that "work," according to experienced teachers. Programs should also include attention to values and beliefs about what good teaching is. By values and beliefs, I do not mean whims and speculations. I mean carefully and thoughtfully constructed conceptions of such matters as what constitutes a learning community, the relation of the school to the broader society, the provision of multiple stimuli under multiple conditions to teach diverse learners, and the "the good life" in schools and classrooms.

Another dilemma associated with using research findings as sole or even primary sources for decisions about what new teachers are expected to accomplish or demonstrate is the tendency to place expectations of teachers and their activities at what might be called the "lowest-common-denominator" standard. When an induction program is tied to certification, a powerful incentive is placed upon teacher acquiescence to prescribed standards of behavior. Should we use this incentive only to ensure that teachers meet minimal criteria derived from research, or should we use the incentive to help the teachers move, along with the rest of us, toward a standard of excellence, however defined?

As I shall claim in testimony to the National Commission on Excellence in Teacher Education, the difference between expectations at a minimal level of competence and the expectations rooted in a more comprehensive view of quality teaching is a fundamental and largely unaddressed issue in teacher induction programs.

> To aim toward excellence is to evaluate instead of inspect, to involve instead of isolate, to promote risk-taking instead of preservation of the status quo, to celebrate change instead of fearing it, to concentrate on growth rather than on remaining static, to acknowledge publicly instances of excellence rather than ignoring them, and to make involvement in decision making the norm rather than an exception to it. (Griffin, 1984, p. 17)

The dilemmas presented here are not meant to deflect or otherwise diminish the potential that research has for contributing to the professional well-being of teachers who are new to classrooms. They are presented more as warnings that may help us make sound decisions about the role research findings will play in formulating and implementing induction programs.

Future Research on Teacher Induction

This list of research questions would, if answered, increase our knowledge about teacher induction so that current programs could be more effective and future programs could be formulated with more certainty of success than has yet been possible. They are presented in no order of priority.

> To what degree can/do induction programs promote or hinder teacher decision making?

To what degree can/do induction programs promote or hinder reflection by the new teacher?

Do effective teaching behaviors that are discovered in experienced teachers' repertoires produce the same student outcomes in the classrooms of new teachers?

What are the underlying assumptions of current induction programs about the nature of teaching, the nature of learning, and the role of the school and teacher in society?

Is there a distinction between outcomes in situation-specific induction programs and those that are mandated by larger geographic and municipal units such as states and counties?

What is the effect on preservice programs of certification-tied induction programs?

Can knowledge of new teachers' practices, beliefs, and orientations contribute to the formulation of theories of teacher education and theories of teaching? In what ways?

How can closer linkages between college-based and school-based teacher education programs be created?

What institutional regularities in schools are most influential upon the success of selected induction programs? What is the reciprocal influence of programs on institutional regularities?

To what degree do induction programs adapt to the "ethos" or self-perceived climate of the school into which new teachers move?

What are the differential implementation effects in terms of new teachers who are believed to be strong and those who are believed to be weak?

What beliefs and values are most influential upon a new teacher's perception of the value of an induction program?

What, over time, are the consequences of induction programs in terms of such outcomes as numbers of teachers denied certification, effectiveness of peer teachers, training for implementers of programs, relationships with pupil outcomes, and impact on subsequent legislation regarding the professional lives of teachers?

A host of other questions could be asked and, as with this list, the answers would provide more information upon which to base decisions about induction programs. The list does, however, suggest the need to carefully consider how we might go about finding answers.

It is probably too obvious a point to belabor in any detail, but programs of activity involving multiple actors and carried forward in multiple contexts demand multiple approaches or methodologies. For years, educational researchers debated the use of qualitative versus quantitative modes of studying and interpreting educational issues. That debate has abated to a degree, and we appear to have a somewhat uneasy resolution that might be summarized as, "It depends." Although most of us carry a tradition of research methodology, partly as a consequence of our education and partly as a result of personal predilection, there seems to be a growing tendency for persons with different perspectives to respect the orientations of others. However, this respect has yet to result in large numbers of studies that exemplify the best of multiple traditions in a single inquiry. To understand the interactions around and within complex contexts such as schools, I believe it absolutely necessary that we make much more vigorous use of methodologies that blend and explain, that answer and provide needed detail, and that name and describe. This blend is only possible when complementary although basically different conceptions of scientific inquiry can be used in tandem.

Among the important research issues for our times, both academically and practically, are the following:

1. We must determine to what degree research findings, when used as content for teacher induction programs, accomplish the same pupil outcomes as are reported in the original correlational studies. The very heart of many programs is the phrase, "Research says." In the interests of integrity and accountability, we must be able to support that assertion or else alter the rationales we use to include certain behaviors as standards that teachers must demonstrate.

2. We must find out, from a variety of perspectives, if teacher induction programs contribute to or hinder new teachers' estimations of their own efficacy and whether or not a perceived sense of efficacy is related to effectiveness. There are hints that some new teachers believe their teaching is confined too narrowly by the expectations of some induction programs. If this is true to any large extent, we should modify our conceptions of what should be expected in teacher induction programs.

3. We must discover the degree to which teacher induction programs do, in fact, serve a "gatekeeping" function, sorting more effective teachers into schools and less effective teachers out. When teacher induction programs are tied to state certification, one implication is that they will identify teachers who should be counseled out of their important social roles.

4. We must determine whether or not the procedures and practices associated with some teacher induction programs are, as is claimed, valid and reliable.

Because many persons charged with carrying out the procedures are unfamiliar with the canons of data collection and interpretation, they may be unaware of the possibilities for error. If the procedures are flawed in their use, the results are open to legal and moral question.

5. We must gain a better understanding of the ways in which current and proposed induction programs align with conceptions of excellence in teaching. Naturally, definitions of excellence abound and are often in conflict with one another. A fear held by some, however, is that the search for excellence may, unless carefully pursued, make teachers into automatons rather than professionals, workers rather than decision makers, followers rather than leaders, and conformers rather than risk takers.

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A FRAMEWORK FOR EVALUATING INDUCTION INTO TEACHING

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Describing an exemplary teacher induction program is a difficult task because there are no generally agreed upon criteria for an exemplary program, and I know of no program that meets the known criteria. In spite of these difficulties, I will set forth my understanding of what an effective induction system should achieve, identify characteristics of induction systems that seem to be most effective in achieving these results, and describe the efforts of one local school system, the Charlotte-Mecklenburg Schools in North Carolina, to develop an induction system that is roughly congruent with the characteristics I have described.

Effective Induction Systems

The purpose of induction is to develop in new members of an occupation those skills, forms of knowledge, attitudes, and values that are necessary to effectively carry out their occupational role. And more than this, the primary aim of induction is or should be to create conditions that cause new members to internalize the norms of the occupation to the point that the primary means of social control (i.e., control over performance) is self-control.

It is sometimes overlooked, even by astute students of induction processes, that the real or perceived need for tight supervision, constant corrective feedback, and strong formal sanctions for experienced members of an occupation (i.e., those who have passed through the induction process) is a very good indicator that the system of induction applied by the group or organization is ineffective or inadequate. The fear of negative sanction and the promise of positive reward undergird all systems of induction. However, the more frequently those in authority must overtly display these sanctions and rewards with experienced members, the less likely it is that the system of induction has been effective. An effective induction system is a system that creates conditions in which new members to the group, the organization, or the occupation so internalize the norms peculiar to the group that they conform to these norms even when formal authority is not overtly present to uphold the norms.

The Nature of Norms

All occupations, from the simplest to the most complex, call upon individuals to do at least some things in prescribed ways (e.g., to fry an egg, short-order cooks must know and act on the knowledge of the appropriate heat level for frying eggs). In addition, certain actions are seen as inappropriate. For example, an apprentice carpenter is expected to drive nails straight and to remove bent nails. A few infractions of this rule will be tolerated, but continuous infractions will bring censure and ridicule, even from other apprentices. Thus, all occupations have certain rules or norms that apply in peculiar ways to the members of the occupation.

In fully developed occupational groups (sometimes referred to as professions), the normative order is sufficiently comprehensive (the norms cover a wide range of behaviors) and complex (many norms apply in a given situation and are intricately related) that one can begin to speak of a distinctive occupational culture or subculture. For example, priests must learn special feelings about their own sexuality if they are to successfully uphold norms of priestly celibacy. They are required not only to refrain from sexual activity but also to believe they should refrain. Thus, the norms that apply to priestly celibacy are not only prohibitive (thou shall refrain from), they are also prescriptive (thou shall endeavor to value the restraint and believe that it is good).

Since sociologists have written so much about the nature of norms, the structures of norms, the relationships among norms, and the impact of norms on social action, one could easily write a book that does nothing more than review this literature. I will refrain from doing so. At the outset, I acknowledge that much I will say here has been suggested by other sociologists (e.g., Williams, 1960; Parsons, 1959; Mills, 1959; Goffman, 1959; and numerous others). Those familiar with sociological thinking will find little new here. What may be new is my attempt to apply what sociologists generally know about norms to the peculiar problem of describing and analyzing induction processes in teaching.

Generally speaking, norms can be categorized into four categories (Williams, 1960): moral norms, aesthetic norms, technical norms, and traditional or procedural norms. Moral norms have to do with standards of good and bad, right and wrong. Aesthetic norms have to do with matters of taste and beauty. Combined aesthetic and moral norms shape our views of what House (1980) refers to as Truth, Beauty, and Justice.

Moral and aesthetic norms provide the standards against which other norms are evaluated. For example, the preference for basing the technical norms of teaching (teaching practice) on experimentally derived scientific knowledge as opposed to custom and convention is a moral and aesthetic choice. This choice, by the way, is more frequently made by members of the research community than by practitioners. Indeed, practitioners give considerably more value to custom and tradition than do researchers. Thus, the often-noticed hiatus between theory and practice may be the result of a clash between two normative orders or subcultures instead of a lack of understanding. If this is the case, and I believe it is, then attempting to resocialize teachers so that they embrace theory and research as the guide to practice will be, in fact, counterproductive, unless the normative order of the teaching occupation is itself redesigned. If research is to guide practice, the culture of the teaching occupation must be changed, and teachers or teacher education must also be changed.

Technical norms guide the way in which a job is done (e.g., driving a nail, presenting a lesson, suturing a cut or wound). Traditional or procedural norms guide procedure in areas that have few or no technical norms to guide action. For example, it is customary to drive on the right side of the road in the United States and on the left side of the road in England. The technical operation of an automobile is not affected by this procedural norm.

Indicators of Effective Induction Systems

If we look at induction systems as processes for helping new teachers internalize the norms of their profession, the most critical indicators of system effectiveness are:

1. The way in which the norms are distributed throughout the group. Critical questions to ask here are: Who knows what the norms are and how detailed is that knowledge? To whom do the norms apply? Do they apply universally to all members of the group or do they apply only to some members of the group? And when norms apply to some members of the group but not to others, do all members of the

group uphold this differentiation? For example, the norm of celibacy applies only to members of religious orders in the Catholic Church. However, even the most prolific members of the Catholic Church know about the norm of celibacy, usually support it, and usually see its unique application as good, just, and moral. By way of contrast, the tendency of school systems to pay the travel expenses of administrators who attend conferences and to refuse to pay such expenses of teachers as a norm is not so widely supported by members of the affected group. However, norms supporting differences in privileges and status may also be upheld by those who are underprivileged and have lower status. For example, most teachers would agree that the demands made of school superintendents combined with the precarious tenure of superintendents justify a normative pattern in schools that supports paying superintendents more than teachers.

2. The patterns of conformity that develop around the norms. First, there is the question of attempted conformity (How many members of the group actually make an effort to comply with the norms?). Second, there is the question of the degree of conformity (How many of the group members actually succeed in conforming to the norms of the group?).

3. The patterns of deviation from the norms. One key question is, how much deviation is there, and is the deviation patterned? If a system of induction is effective, then deviation from the norms should be idiosyncratic, isolated, and unpatterned. Individuals may deviate from the norms considerably, but when deviation is widespread through the group or when identifiable subgroups systematically deviate from the norms, it is likely that the system of induction has not been as effective as it was intended to be.

A second question is, how wide is the deviation from the norm? For example, I would assume that it is normative for teachers to start class on time. Operationally, however, what is meant by on time varies from school to school. As research on effective teaching indicates, there is wide variance within and between schools regarding the tolerance ranges of the on-time norm.

An effective induction system has the following results:

1. All or almost all of the members of the group know what the norms are and generally support them even when the norms do not apply to them or when the application of the norms applies unequally to them.

2. All or almost all of the experienced members of the group attempt to conform to the norms and are usually successful.

3. Deviation from the norms is more or less random, and the range of deviance is relatively narrow.

Some educators resent the notion that conformity is or should be the goal of induction. I understand this resentment but I think it is wrong-headed. Conformity is not the antithesis of creativity, but the condition that makes creativity possible. Before one is able to add to the life of the group, one must understand what the life of the group is and be able to participate in it. Norms not only constrain, they liberate. Indeed, creative organizations have norms about when deviance will be tolerated and the conditions under which potentially creative deviance will be encouraged. High-prestige research universities, for example, have well-developed normative structures defining the conditions under which deviance will be encouraged. So do IBM, AT and T, and Intel. What healthy groups and organizations do not tolerate is deviance that holds no promise of contributing to the life and goals of the group or deviance that threatens the fabric of the group and diverts attention from the purpose or goals for which the group exists.

Characteristics of Effective Induction Systems

Although no induction system that I know of meets the criteria I see as necessary for an effective induction system, numerous school systems have some of the components I will describe. For example, the Toledo School System has a beginning teacher program with some of the desirable characteristics, as do the Teacher Corps Program and some of the Ford sponsored MAT programs. Even some of the most simplistic new teacher-orientation programs have some of the elements described.

Given the lack of pertinent information in the education literature and my background as a sociologist concerned with the study of occupations and organizations, I have looked to the general literature of occupational socialization and adult socialization for guidance. I have been especially attentive to the literature related to what I referred to earlier as fully-developed occupations. The conclusions I have developed are as follows:

1. Effective induction systems are based on and oriented toward clearly stated, well-articulated, and generally understood expectations and norms. Indeed, without well-articulated and codified norms, the development of a systematic induction process is nearly impossible. One cannot be inducted until there is something into which to be inducted. If the only norms that count are

those that have the idiosyncratic support of someone in authority, then there is no normative order. Rather, there is an authority system upheld by the sheer exercise of power, and the exercise of power can easily become arbitrary and capricious if it does not itself submit to a normative order.

2. Effective induction systems explicitly and implicitly use the process of recruitment and selection as an integral part of the induction process. Occupations with effective induction systems assume that participation in the unique life of the group requires one to separate from one's historic peers, commit oneself to the pursuit of entry into the group, behave in ways that indicate this special commitment, and submit oneself to the discipline of the group simply on the promise of approval (i.e., selection) by the group. And there is more. When selection does not occur, those who are rejected usually understand (even if they do not accept or like) the basis of the rejection. For example, a young person aspiring for an appointment at West Point knows that a sound academic record in high school, solid test scores, and sponsorship by a member of Congress are necessary prerequisites for entry into the academy. These conditions are generally known by all applicants to West Point because they are publicly announced and well articulated. The clear statement of criteria from entering for admission to the occupation serves several important functions. It discourages those who do not meet the objective criteria into the occupation. It permits those who meet minimal expectations but who are not selected to rationalize the reasons for their rejection. Finally, it allows those who are selected to conclude that they are indeed set apart and somehow different from "all the rest."

Clear, rigorous selection criteria and the requirement that potential recruits demonstrate commitment to the occupation as a prior condition of acceptance create psychological conditions that social psychologists have found to be conducive to the effective resocialization of adults. These conditions include a sense of estrangement from one's past peer group, a modest degree of anxiety and apprehension, and a general sense of estrangement from one's traditional social bonds. I recognize that critics will consider such procedures inhumane and possibly counterproductive. There is no question that such procedures do cost society and individuals dearly. Perhaps teaching cannot and should not pay such costs. Perhaps more humane and less potentially destructive alternatives can be invented. I hope so.

On the other hand, I hope that tenderness of heart and concerns about the individual needs of recruits do not deflect attention from the fact that what is needed in schools are persons who are tender of heart and extraordinarily sensitive to the needs of students. Such persons are not ordinary in any society. Perhaps it is time we consider extraordinary means of selecting them. Caring for a persistently misbehaving child, understanding that a child's insults should not be taken personally, and believing that every child can learn are no more "normal" in our society than is the disciplined response of a defense attorney who is defending a mass murderer or the disciplined aesthetic attitude that permits a physician to lance a festering wound without becoming ill. Being a member of a fully developed human service occupation requires one to make abnormal (disciplined and controlled) responses to difficult circumstances.

3. In an effective induction system, entry into the occupation is marked by distinct stages and statuses. The successful completion of each stage is accompanied by ceremony, ritual, and symbols. Each status carries with it a distinct set of performance duties, rights, and obligations. Recruits in the early stages clearly have lower status and fewer privileges than persons in later stages, and only after full entry into the occupation do they have all the rights and privileges available to full members of the occupational group. For example, first-year medical students are inferior in status to second-year medical students, and first-year students in law school and in the military academies have less status than second-year students. Thus, time, grade, and performance are related to status in fully developed occupations.

One of the consequences of this staged entry is that many immediate status rewards are available even though monetary rewards are relatively meager or nonexistent. Because plebes know that they can quickly overcome their inferior status through commitment and performance, inferior status can be highly motivating. Inferior status is only debilitating when one can do nothing to overcome it.

Another effect of staged entry is the increased likelihood of transmitting the norms of the occupation through imitation as well as through direct instruction. There is evidence that knowledge, skills, and attitudes are more easily transmitted when transmitters and receivers are relatively close in status, rank, and experience. Great social distance between the senders and the receivers of norms seems to distort the fidelity of the transmission. A finely graded status system allows one to bridge more easily the gap in knowledge and skill between neophyte and full-fledged professional. For example, second-year medical students are closer in status to first-year medical students than are senior residents. Beginning medical students may aspire to be senior residents one day, but today they have immediate access to second-year medical students who can teach them what they need to know (i.e., how to become second-year medical students). Staged entry encourages anticipatory socialization because people with status and a little more experience are socially and physically close at hand to be observed and imitated. Human beings learn not only from being told and from practicing, they also learn by observing and imitating.

4. Effective induction systems have mechanisms that encourage mutual support among status equals. For example, many programs of professional studies, including graduate programs, attach labels to students that clearly indicate their status. The Sociology Department at the University of North Carolina, Chapel Hill (UNC-CH), identifies students as first-year cohorts, second-year cohorts, and third-year cohorts. Each class of cohorts goes through specified rituals and ordeals. (Anthropologists refer to these rituals as shared ordeals.) The substantive content of the ordeals may or may not be important. However, the social content is important, for it reinforces social bonds that tie neophytes to the history and traditions of the occupation they are about to enter.

5. Effective induction systems usually call upon neophytes to undergo elaborate vocabulary-building activities, frequently presented as courses about particular subjects. These courses do more than teach knowledge; they also teach the language, lore, myths, and rituals of the occupation. Often language-development courses are the most glaring examples of the shared ordeal. The level of expected mastery is high, and the pressure to succeed is great.

6. Effective induction systems usually assume that those who are admitted to training are likely to become full-fledged members of the occupation. Admission to training is tantamount to admission to the occupation. High-prestige medical schools and law schools, for example, seldom have a high attrition rate, and the attrition that does occur is not caused by lack of capacity to perform. Low attrition does not mean that the standards of performance are not high, for they are. Rather, training is oriented toward success, and evaluation is diagnostic. Apparently, occupations with successful induction systems are hard to get into, but they are also hard to get out of.

7. Occupations with the most effective induction systems rely greatly on intensive clinical supervision, demonstration, coaching, and constant corrective feedback by real practitioners in real situations. Neophytes also understand that they may be called on to articulate and justify any action they take. In fact,

occupations with the most effective induction systems are those from which educators have taken the ideas of clinical supervision, mentors, and preceptors.

8. In occupations with the most effective induction systems, responsibility for evaluating new members and providing corrective feedback, training, and support is diffused throughout the group. The concept of supervisor and the notion of administrative authority are generally alien to such groups. Evaluative authority is based on expertise rather than on the position one occupies in a bureaucratic structure. These evaluative procedures are well grounded, according to Dornbausch and Scott (1975). Some of their characteristics are as follows:

a. The performances being evaluated are visible; both evaluators and evaluatees are in a position to "see" and to see each other "seeing."

b. Evaluators are believable because they can demonstrate the practices they are assessing.

c. The evaluation process is continuous rather than periodic or spasmodic.

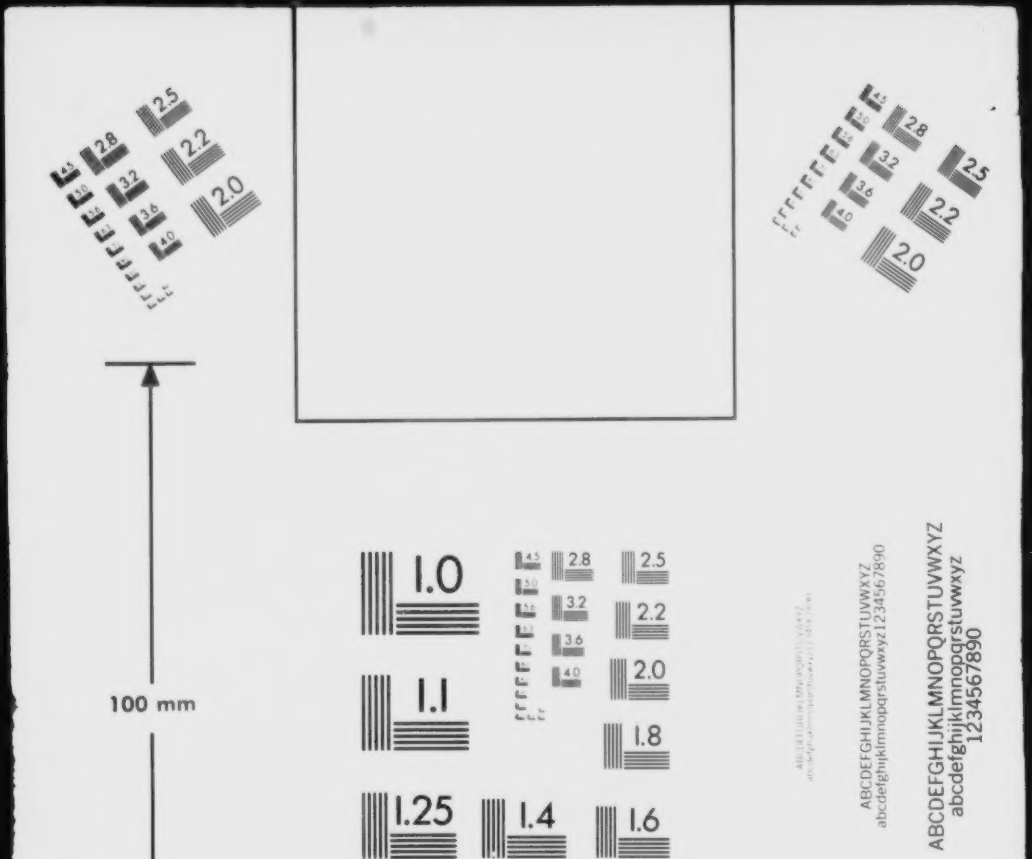
Indeed, one of the critical features of an effective induction system is the intensity with which evaluations occur and the numerous sources from which evaluations come. Public presentations of performance are expected, required, and subject to a constant flow of critical evaluations.

The Charlotte-Mecklenburg Case

The Career Development Program (CDP) of the Charlotte-Mecklenburg Schools (CMS) is designed to incorporate the characteristics of effective induction systems described above. One of the most critical components of the program is a statement of 14 expectations that career teachers are required to meet and uphold. Accompanying the statement of expectations is a statement of competencies (skills, knowledge, and attitudes) required to meet these expectations. For example, it is expected that the classroom performance of career teachers will consistently reflect practices linked by the research literature with improved student performance. Therefore, experienced teachers should know what the research literature says about effective teaching, should have developed the skills this literature indicates to be effective, and should routinely employ these practices in the classroom. Together, the statements of expectations and competencies provide a comprehensive description of the occupational norms the system of induction intends to reinforce.

Operationally, these statements of expectations and competencies can appear to be almost overwhelming to the neophyte. One of the most frequently heard comments during the training of new teachers is, "Do you mean that I have to demonstrate that I know all of these things and am skilled in all of these things?" The answer is "Yes." However, the system is designed so that new teachers are not expected to demonstrate all the competencies and skills simultaneously and immediately nor to meet all the expectations at once. To bring about gradual expertise in meeting the norms, the induction program has a staged-entry process. All new teachers are designated as provisional teachers and are expected to develop and demonstrate only the knowledge and classroom skills consistent with the findings of the research literature on effective teaching.

To assure that these norms are effectively transmitted to new teachers, a series of actions has been taken. First, the Group for Effective Teaching at the University of North Carolina, Chapel Hill designed a classroom observation system that emphasizes teaching practices identified in the literature on effective teaching. Second, persons working directly with beginning teachers have been trained in the use of the instrument to assure that they are competent to observe a beginning teacher's classroom and evaluate the extent to which practices conform to expectations. Third, beginning teachers are required to participate in a sequence of training activities intended to make them aware of the literature on effective teaching and to provide opportunities for practice and demonstration of effective teaching skills with peers, more experienced teachers, and administrators. (Experienced teachers and administrators in the system have been provided with equivalent training.) Fourth, specially trained observer/evaluators have been employed to use the same evaluation instruments to perform more detailed summative evaluations. These evaluations are used to decide the readiness of individuals to move to the next stage of induction. Fifth, beginning teachers are assigned to advisory/assessment (A/A) teams comprised of the principal, the assistant principal of instruction (API), and a senior teacher mentor. In addition to providing new teachers with necessary coaching and support and assisting beginning teachers in locating other needed sources of training and support, members of the A/A teams are expected to observe and confer regularly with the new teachers. The principal is expected to spend a half day per semester observing and conferring with each beginning teacher. The API and the mentor spend half a day per month observing and conferring. In addition, the trained observer/evaluators observe beginning teachers three times during the first year.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A written record of each of the observations and conferences is filed in a portfolio and, along with other data such as reports from workshop trainers, constitutes the data used by A/A team members in developing formative and summative assessments of beginning teachers' classroom performance. Because the CMS Career Development Program is predicated upon the assumption that systematic and continuous evaluative feedback is a critical component of staff development and because the idea of evaluation as a form of inspection is rejected, no distinction has been made between the roles of those who engage in formative and in summative assessment. Sixth, A/A teams meet with beginning teachers once every 6 weeks to review their portfolios and to discuss future actions. Finally, each of the five administrative areas develops peer support groups for beginning teachers. The support groups meet outside the school buildings under the direction of people completely uninvolved in formative and summative evaluation. The support group leaders function something like a preceptor in a teaching hospital, though the term preceptor is not used.

Near the end of the first year of employment, A/A teams conduct a summative assessment of the performance of provisional teachers to date. Based on this assessment, they recommend advancement to the status of second-year provisional teacher or nonrenewal of the contract. (A review process is also built into this procedure, but my purpose here is to discuss the induction process rather than procedures used to assure the integrity of that process.) The purpose of the first-year induction process is to develop the capacity of new teachers to comply with the system's performance expectations. Some persons will not be able or willing to develop these capacities. With the intensive observations and consultative help that are provided, most of these persons will be counseled out before formal personnel actions must be taken. When formal action is required, it is made easier by the wealth of data available. More important, persons who advance from first-year to second-year provisional teacher status will know they have advanced because they are capable of performing in classrooms according to system expectations.

Second-year provisional teachers are expected to maintain or improve the knowledge and skills demonstrated during the first year and to demonstrate proficiency in additional competencies such as the construction of teacher-made tests and effective communication with parents. The support and evaluation system employed with first-year teachers is also used with second-year teachers, except that classroom observations by principals, APIs, and mentors are less frequent, and observations by trained observer/evaluators are more frequent. At the end of the second year, A/A teams decide whether or not teachers will move from provisional teacher to career nominee status.

When teachers become career nominees, evaluations and observations decrease in intensity and more attention is given to developing and demonstrating competencies related to performance as a faculty member. For example, career nominees are provided training in the identification of school-level problems and the conduct of action-oriented research intended to resolve these problems. They are expected to participate in problem-solving faculty groups, and their participation is evaluated. (Evaluative criteria are based on the literature on effective schools in much the same way as criteria for the performance of provisional teachers are based on the the literature on effective teaching. By the end of the fourth year, successful teachers demonstrate that they possess the knowledge and skill necessary to function as effective teachers and faculty members, and they are eligible to move from being career nominees to the status of career candidate. During the two-year period as career candidates, teachers must demonstrate that they are independently capable of using these competencies to produce results consistent with expectations held for career teachers.

The evaluation system for career candidates and career teachers is fundamentally different from the system for provisional teachers and career nominees. The system employed with provisional teachers and career nominees is performance based (i.e., how one does what one does is considered important). For career candidates and career teachers, evaluation is goal based or goal oriented. Teachers have great latitude in selecting goals, developing strategies to meet those goals, and identifying strategies and procedures to determine whether the goals have been met. By the time teachers have become career candidates, they have demonstrated an ability to perform. The question then becomes, do they perform well outside the context of supervision and intensive support and reinforcement?

A Preliminary Evaluation

Because the CMS program is only now beginning implementation, a data based evaluation is impossible. However, it is possible to make some informed judgments about the extent to which the CMS program conforms to certain characteristics of an effective system of induction: clear norms, a recruitment process, staged entry, mutual peer support, a common vocabulary commitment to retain all inducted members, intense clinical training, and group evaluation of members.

An effective induction system has a clearly articulated system of norms and standards of performance. The CMS program contains such statements. Some of the statements are quite specific and technical in nature. For example, teachers are expected to consistently provide corrective feedback to students. Teachers are expected to know the values and goals of the school system and to articulate them effectively to students, parents, and the public. In addition, some of the expectations have a moral and aesthetic dimension. For example, teachers are expected to base their practice as much as possible on the research on teaching. Without arguing that the competencies and expectations held for teachers are the right competencies and the right expectations, we can agree the CMS program has made a start at articulating a complex and comprehensive normative order to which it expects inductees to conform.

Effective induction systems explicitly and implicitly use the process of recruitment and selection as an integral part of the induction process. Several activities have occurred in the CMS that move in this direction. For example, a brochure has been developed to describe to potential applicants the purposes of the Career Development Program. The brochure clearly communicates that teachers will undergo rigorous, systematic evaluation and continuous training activity. It emphasizes that admission to this program requires one to behave differently and to meet higher standards than simply minimal competence. For example, new teachers are required to sign a form indicating their acceptance of new tenure provisions.

In the planning stages, CMS staff were concerned that changes in the tenure law and more rigorous evaluation requirements might discourage applicants rather than encourage them. Quantitative data are not yet available, but there are indications that the opposite may be true. For example, three superintendents from surrounding countries told representatives of the local media that some of their best teachers are seeking employment in Charlotte. Casual observation of applications suggests that the rate of application from high-prestige institutions is increasing. Comments from beginning teachers such as "It's exciting to be a pioneer," "I'm frightened, but I'm excited," and "I feel special and privileged" clearly suggest feelings of separation from previous practices, coupled with a healthy anxiety.

Effective induction systems use staged entry, the induction of new members into the group through a series of distinct stages, each stage carrying with it certain rights, privileges, and obligations. The CMS program gives considerable emphasis to the idea of staged entry. It remains to be seen, however, whether this concept can be translated into practice. Indeed, it appears likely that one of the most difficult problems confronting the CMS program is translating the idea of staged entry into operational terms. The norm of equality among teachers is deeply embedded in the prevailing ethos of schools. The idea that beginning teachers should have a different status than experienced teachers is directly contrary to this equality norm. Teachers are more or less able to accept status differences based on bureaucratic authority, but they are more hesitant to accept status differences based on expert authority. Many experienced teachers in the CMS, as elsewhere, are uneasy with the idea that they should be involved in the evaluation and training of beginning teachers.

As reported elsewhere (Schlechty, Crowell, Whitford, & Joslin, 1983; and Schlechty & Whitford, 1983), the Charlotte-Mecklenburg Schools have already made substantial commitments to teacher education. In addition, the school system has established a number of mechanisms that legitimize the formal preparation of teachers. For example, the school system has developed and implemented a multiagency consortium of universities and schools to collaborate in the design and delivery of certification programs. In spite of these commitments, it is not clear at this time whether the staged-entry concept can be fully implemented without a much more radical redesign of the jobs of teachers and administrators than is envisioned in the CMS program. It is not clear, either, whether the kind of redesign that is necessary will be politically or economically feasible. So long as people believe that time and resources given to the development of human resources in schools are "fringe benefits" rather than necessary, routine activity of the school, it will be very difficult to bring about the needed changes. For example, some board of education members, many parents, and many teachers resist and resent any activity that takes teachers away from children for even half a day. For many, teaching teachers is not a legitimate function of schools. The legitimate function of schools is teaching children.

Another characteristic of effective induction systems is the provision of mutual support among status equals. This condition is almost as difficult to implement in schools as is staged entry. Although the CMS are attempting to provide such support, finding time for teachers to support each other is difficult, given the way teaching jobs are designed. Beginning teachers tend to be randomly dispersed through the system. It is difficult to establish class or cohort identity when one is not able to "see" who is "in the class."

One possible solution to this problem that has been discussed is to establish certain school building units that have a special responsibility for the early induction of teachers. New teachers would start in a limited number of schools. Clearly, before such a strategy could be implemented, a variety of policies would need to be addressed, (such as transfer policies and developing projections for future staffing needs. Political and public relations problems would also need to be addressed. For example, parents would need to be assured that a large number of new teachers in a school would not impair the quality of education of the children in that school.

Based on observations of faculty turnover patterns and differences in the hiring rates from building to building, I suspect that certain schools already serve a systematic induction function; however, this function is not generally recognized. Because this condition is caused by "natural circumstances" as opposed to policy decisions, the schools in which most teachers begin teaching are probably the schools where teachers have the least interest in teaching. Thus, it is likely that a disproportionate number of new teachers gain their initial induction experience in low-status, low-prestige schools.

Building a common vocabulary, a vocabulary unique to the occupational group, is another characteristic of effective induction programs. The Effective Teaching Program, which has been implemented in Charlotte and which is partially based on the Madeline Hunter model, is an effort to achieve this end. The expectation that teachers will know the general literature on effective teaching and effective schools provides a framework within which a broader vocabulary can be built. If vocabulary building is to have a social impact as well as increase knowledge and skills, those in charge of training must understand that the concept of shared ordeal is as important to training activity as is the development of technical skills and competence. Excusing persons who "already know this material" may make logical sense, but sociologically speaking it may make no sense at all. Perhaps those who already know should go through the training but play different roles (e.g., peer critic, peer tutor).

Effective induction systems assume that all who enter are likely to become full-fledged members of the occupation. There is considerable ambivalence about formally endorsing this concept in the CMS plan. On the one hand, there is a strong public commitment to the positive reward and growth of teachers. On the other hand, some people believe that the real test of the program will be whether the school system "fires" more incompetent beginning teachers than it has in the past. The history of poorly conceived recruitment, selection, and induction procedures makes it difficult to advocate, as a qualitative reform, a program aimed toward the growth and development of everyone who is employed. Whether and how this tension between logic and prudence will be resolved is not yet clear in the CMS.

Effective induction systems rely on intensive clinical supervision, demonstration, coaching, and constant corrective feedback. Conceptually, the CMS program has systematically built in this component, but carrying it out may be difficult. One of the greatest problems presently confronting the CMS program is finding the time and resources to provide training for APIs, principals, and mentors. At present, the program is relying on on-the-job training combined with some half-day training workshops.

The hope is that as the program evolves, more attention can be given to this concern. It is commonly accepted in Charlotte that the greatest short-term weakness of the program is the lack of systematic training and support for mentors, A/A teams, principals, and assistant principals. However, much attention has been given to the selection, training, and support of observer/evaluators. It is felt that for the program to work, it must be creditable with the public as well as the teachers. Much of the credibility is dependent upon the real and perceived quality of the evaluations used to make personnel decisions.

Finally, effective induction systems make the entire group responsible for evaluating new members and providing corrective feedback, training, and support. The CMS program is designed to encourage diffusion of responsibility. Again, whether this design can be implemented depends in large measure on whether teacher training can be legitimized in an organization where the primary legitimizing goal is the education of children.

I am convinced that the development of adequate induction systems in schools requires a fundamental reorganization of the goal structures of schools. If induction systems are to work, schools will have to embrace teacher education as a goal, just as they now embrace the education of children as a goal. The Charlotte-Mecklenburg Schools have made considerable strides in this direction, although their induction program is too new to make a data-based evaluation of the extent to which the program conforms to the general characteristics of an effective induction system.

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BEGINNING TEACHER ASSESSMENT AND ASSISTANCE: IMPLEMENTATION AND RESULTS

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As part of the performance-based certification in Georgia, beginning teachers are provided with a four-step induction process of assessment and assistance that includes (1) orientation, (2) observation, (3) feedback, and (4) staff development. Assessment and staff development are based on the state's Teacher Performance Assessment Instrument (TPAI).

In Georgia, more than 75% of the graduates of teacher education programs gain experience with the 14 competencies and the 45 indicators of the TPAI during student teaching. I am an advocate of a continuum of preservice, induction, and inservice based on a common set of competencies and assessment procedures. However, our work indicates that we cannot have the same quantitative and qualitative expectations of student teachers in preservice as we have of beginning teachers in an induction program.

The first step in the process is to provide clear expectations. Traditionally, beginning teachers have begun their initial teaching assignment without explicit knowledge of the competencies that should constitute their teaching repertoire. Without clear expectations, many beginning teachers become frustrated, develop poor teaching habits that are much harder to correct later, and base their perceptions of success and their desire to continue teaching on self-assurance and ego strength rather than demonstrated skill. With clear expectations, beginning teachers can develop both confidence and competence.

Since all beginning teachers from out of state and some in-state graduates have had no previous contact with the TPAI, an orientation at the beginning of the school year is essential in communicating clear expectations. Beginning teachers are provided with a copy of the TPAI and are given an opportunity to attend a follow-up orientation. This procedure has increased beginning teachers' perceptions of what is expected of them in the assessment process from 75% to over

90%, and, more importantly, has initiated positive behavior changes in teaching competencies.

The next step in the process, the actual assessment, creates change as beginning teachers document teaching plans and materials in a portfolio and demonstrate classroom procedures and interpersonal skills during three observations. The evidence is clear that scheduled observation produces higher levels of performance than random observation of teaching behavior. By demonstrating that they "can do it" during observations, beginning teachers begin to establish behavior patterns of "doing it."

A further step is providing specific feedback after an assessment. Beginning teachers are provided with an interpretation session of their profile of competencies composed of reliable data (e.g., 12 to 15 scores per competency, based on four to five indicators by three trained observers). Analysis focuses on but is not limited to performance measured by established mastery levels. Over 85% of beginning teachers indicate that the assessment profile has helped them to identify strengths and weaknesses, and over 90% indicate that they used the results to improve their teaching. Thus, considerable behavioral change takes place as a result of feedback.

The last step in the process is staff development and supportive supervision based on assessed need, not just felt or perceived need. This step can and should take many different forms and must be the least structured aspect of developing beginning teachers. Because of the changes that take place in the previous three steps, it is a mistake to think that all beginning teachers will need or even profit from a formal staff development program. However, such a program is vital for the very survival of some teachers and enhances and reinforces the teaching competencies of most teachers.

Institutions of higher education can play an important role in staff development with field-based programs. Beginning teachers report that their best assistance comes from receiving a day or even a half day of release time to visit the classroom of a master teacher, or, depending on the competencies needed, having a master teacher spend time in the beginning teacher's classroom.

Our data over seven years confirm that virtually all beginning teachers need and greatly benefit from an assistance process that provides clear expectations, assessment, feedback, and staff development. Prior to the implementation of this process, only one out of every eight beginning teachers could demonstrate mastery of the competencies; now better than four out of five master the competencies and better than 90% of all those assessed indicate that they are proud of the essential on-the-job competencies they are able to demonstrate.

OKLAHOMA EDUCATION REFORM
(House Bill 1706)

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Oklahoma State Department of Education

In Oklahoma, the legislature has been very active in outlining educational policy. In the past, most matters concerning teacher education and certification have been addressed by the Professional Standards Board and the State Board of Education. However, in light of the growing dissatisfaction by the general public with teachers and the demand by teachers for higher salaries, the 1980 Oklahoma Legislature passed a comprehensive piece of legislation concerning teacher education and certification. This legislation was developed over almost a year's time through the efforts of the Interim Joint Education Committees and the legislature with input from parents, teachers, administrators, deans of colleges of education, and other interested parties. As a result of this input and a tremendous effort on the part of many people, a new program entitled House Bill 1706 became law.

The four major concepts addressed by House Bill 1706 are:

1. Strengthened screening requirements of students entering a college of education and additional field experiences in the preservice program.
2. Testing of teachers in the curriculum areas in which they will be teaching.
3. A staff development program in all school districts.
4. An Entry-Year Assistance Program for beginning teachers of at least 1 year but no more than 2 years.

The intent of the legislature in passing the bill was to establish qualifications of teachers in our accredited colleges through licensing and certification requirements that ensure that the education of the children of Oklahoma will be provided by teachers of demonstrated ability.

The first concept mandates strengthening the screening requirements of students entering a college of education and providing additional field experiences in the preservice program. A survey by the Oklahoma Regents for

Higher Education indicated that students entering colleges of education have low grade point averages and ACT scores compared with students entering other colleges at the university level. Therefore, the Professional Standards Board and the State Board of Education have adopted minimum admission criteria for teacher education candidates. The criteria include a minimum grade point average of 2.50, a demonstrated competency in the written and oral use of the English language, and evidence of having worked with children or youth in a variety of situations. Moreover, according to the Study Commission on Undergraduate Education and the Education of Teachers, statements by practicing teachers about their education experience single out the need for earlier and more field experiences during the preservice program. Therefore, plans have been developed to require an extended period of field experience for candidates in the preservice program.

The second concept of House Bill 1706 requires the testing of teachers in the curriculum areas in which they will be teaching. The State Department of Education was charged with the responsibility of developing examinations for certification areas. Because of the limited amount of time for test development, the decision was made to contract with National Evaluation Systems, Inc. (NES) for assistance in planning, developing, and administering the tests. Oklahoma classroom teachers and higher education instructors were consulted in the development of the examinations.

It was determined that the tests should be criterion referenced and should measure the candidate's knowledge of the subject matter to be taught. The tests were developed as minimum competency, job-related tests; that is, they measure the knowledge an educator needs to function at an acceptable level in a specific job. The multiple choice tests were custom-made for Oklahoma, were developed to cover all of the various certificates offered by the State Board of Education, and are diagnostic in the sense that an examinee can determine the areas of strength and weakness in subject-matter knowledge.

Teacher education candidates are eligible to take the examinations after completing the junior year of college or 90 semester hours of college work. The examinations are administered four times a year at six sites located across the state by the State Department of Education. The law stipulates that no teacher candidate is eligible for licensing until he or she has passed the curriculum examination.

The third concept of House Bill 1706 calls for a staff development program in all school districts. This component requires each local board of education to establish a local staff development program to ensure that children are taught by professional educators fully trained in their areas of expertise. The 1980-81 school year was designated as the planning year, and 1981-82 as the year for implementation of local plans. By July 1, 1981, each district filed a plan with the State Board of Education. Local boards have been required to submit a revised plan by May 1 of each year thereafter. These revised plans are reviewed annually by the State Department of Education to ensure that they meet the intent of the law and comply with board regulations. In its review of local staff development plans, the State Department of Education determines first that local district needs have been identified in a systematic manner; second, that scheduled staff development activities address identified needs; third, that all teachers and administrators are required to participate each year in some staff development activities; and fourth, that all teachers and administrators are required to complete a minimum of 75 hours of staff development activities in a five-year period. In support of program planning and implementation, the legislature has provided $2.07 to $2.53 per ADA to school districts for the last three years.

By law, the local board of education assumes responsibility for the organization and implementation of the local staff development program based upon the recommendation of a local staff development committee. Membership of the committee, which must be confirmed by the local board, includes a majority of classroom teachers along with administrators and parents from the local district.

The fourth concept of House Bill 1706 requires that all beginning teachers who completed a certification program after January 31, 1982 will receive a one-year license to teach in an accredited school under an Entry-Year Assistance Committee. The committee provides guidance and assistance for entry-year teachers for at least one year but no more than two years. The Entry-Year Assistance Program is a process whereby three committee members representing different roles in the education system come together, focus on the beginning classroom teacher, and share their expertise with that teacher. It is a unique support system that can demonstrate the commitment of educators to high quality teaching.

The Entry-Year Assistance Committee consists of a teacher consultant (classroom teacher), a school administrator, and an educator from an institution of higher education. This committee is responsible to provide guidance and assistance to the licensed teacher, particularly in all areas of classroom management. During the entry year, the committee must meet three times with the beginning teacher for consultation. Each committee member must independently observe and evaluate the teacher three times. Provisions are made for the teacher-consultant member of the committee to spend 72 hours per year in consultation and observation with the entry-year teacher. For that added responsibility, the teacher consultant receives a $500 stipend.

At the end of the school year, the committee must recommend that the teacher be certified or serve one additional year in the Entry-Year Assistance Program. Those individuals required to serve a second year must be recommended either for certification or noncertification. If the person is recommended for certification, the committee must also recommend a staff development plan for the teacher based upon their observations.

At the end of the first year of implementation of the program (1982-83), 909 entry-year teachers were recommended for certification, and 23 were recommended for a second year in the program. By the end of the second year of the program, 1,003 teachers were recommended for certification, and 14 were recommended for a second year.

Various studies of Oklahoma's Entry-Year Assistance Program were conducted during 1984. Quantum Research Group, Inc., developed a study for the Oklahoma Regents for Higher Education to determine the role of higher education in the program. Quantum also assessed the attitudes of the Entry-Year Assistance Committee members toward the program's observation instrument in order to formulate recommendations about the instrument's validity. Another important study of the program is being conducted by the Research and Development Center for Teacher Education at The University of Texas at Austin. These and other major studies of the Entry-Year Assistance Program indicate that participants have a positive attitude toward the program.

It should be noted that certain aspects of House Bill 1706 have not been mentioned in this brief paper. It should also be noted that while House Bill 1706 did not mandate a total revision of the teacher certification standards, the spirit of the bill did serve as an impetus for revision. In September of 1984, after three years of development, a set of new, more rigorous certification standards defining all 43 types of certificates available in Oklahoma was approved by the State Board of Education.

VIRGINIA'S BEGINNING TEACHER ASSISTANCE PROGRAM: APPLYING RESEARCH TO TEACHER ASSISTANCE AND ASSESSMENT

Hilda Borko
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Virginia's Beginning Teacher Assistance Program (BTAP), a program of assistance and assessment for beginning teachers, will be implemented in July 1985. The developmental efforts for the BTAP were organized into three distinct phases. During Phase I (January - April 1983), three projects were funded by the Virginia State Department of Education (SDE) to develop conceptual models or designs for the BTAP grounded in research on teaching, staff development, and teacher evaluation. Two projects were funded in Phase II (September 1983 - July 1984) to develop preliminary operational plans for the assessment and assistance components. In Phase III (currently underway), these two projects are developing and field-testing materials and operating procedures.

I will describe the BTAP developmental work done by the Virginia Tech project staff. In describing initial efforts (i.e., Phase I), I will discuss the application of research to the assessment and assistance components. However, the discussion of Phases II and III will be limited to the component for which our team has primary responsibility--assistance.

Phase I: Conceptual and Research Bases for the BTAP

Our efforts to develop a conceptual framework for the BTAP naturally led us to the literatures on teacher effectiveness, teacher evaluation, and staff development. In addition, questions about the nature of teaching and the roles and responsibilities of teachers directed us to writings in areas such as history, philosophy, and policy analysis. As we read and reflected on this diverse collection of works, one question repeatedly surfaced as a crucial element in our thinking: What are the appropriate applications of research findings to the assistance and assessment of teachers? Our attempts to answer this question formed the basis of the conceptual framework and design for the BTAP.

Not surprisingly, answering this question did not prove to be an easy task. In fact, we initially found it easier to describe misapplications of research findings than to identify appropriate applications. For example, we concluded that any attempt to base an assistance or assessment program on a set of generic teaching behaviors is a misapplication of research findings. Research on teacher effectiveness does not support the position that a set of discrete, observable teacher behaviors associated with positive student outcomes can be identified. Rather, research findings refute the concept of generic teaching behaviors in favor of identifying general principles of effective teaching that will hold across various teachers and settings. The appropriateness of specific teaching behaviors that exemplify these principles appears to be dependent upon the teacher and the context. For example, one principle related to classroom management is that effective teachers are well organized in their administration of the classroom. A particular teacher's use of this principle may be illustrated through numerous behaviors that include but are not limited to (1) establishing clear rules, (2) posting written rules, and (3) arranging the classroom for ease of movement and visibility.

The appropriateness of basing assistance and assessment on general principles rather than discrete behaviors was further supported by historical and philosophical analyses of attempts to improve teaching. These analyses suggested that the conversion of research evidence into rules for teachers to follow is miseducative. When teachers are provided with rules and are expected to change their behavior on the basis of these rules, they are given the message that they are technicians whose task is to implement teaching strategies and techniques determined by others. Such a message is contradictory to a conception of teachers as professionals who are responsible for designing and implementing effective educational experiences for students.

These analyses led us to make several recommendations about the nature of assistance and assessment for beginning teachers. Assistance designed to foster a conception of teachers as professionals should help beginning teachers to develop repertoires of teaching skills and strategies and the decision-making capabilities needed to select from these skills and strategies the ones most appropriate to specific teaching tasks. For purposes of assessment, teachers should be held accountable for teaching according to general principles rather than for demonstrating a set of specific teaching behaviors. Such specific teaching behaviors, when observed, may be more appropriately viewed as supporting evidence for observers' judgments of teacher competence and as pertinent information for designing individual assistance programs.

Phases II and III: Teacher Assistance

Based on the reports from Phase I and input from several advisory groups, the Virginia SDE developed a Request for Proposals to design assistance and assessment components for the BTAP. During Phase II, the project team from Virginia Tech was awarded primary responsibility for designing the assistance component. The development of this component was plagued from the outset by two traditional enemies of research and development efforts--too little time and too little money. Despite strong positive support for a colleague teacher concept, the project budget did not provide enough money to train experienced teachers in the mentoring role and to reward them adequately for their efforts.

Because of limited project resources available for assistance, Virginia Tech's major development effort during Phase III is the production of a Beginning Teacher Handbook. (Other assistance components tailored to the assessment package are also being developed.) One focus of the handbook will be the specific skills and strategies needed by beginning teachers to survive the induction years. A second, more important focus will be continued learning within the profession. In keeping with the conceptual framework outlined in Phase I, the handbook will stress the development of a sound conception of teaching, the ability to learn from one's teaching experiences, the development of an expanded teaching repertoire, and the ability to analyze teaching problems. Organized around the theme "learning to teach," this handbook will draw heavily from the literatures on teacher effectiveness, teacher induction, staff development, and teacher evaluation to provide new teachers with strategies for solving classroom problems rather than offer prescriptions or recipes for success.

THE WISCONSIN STUDY OF TEACHER SOCIALIZATION: IMPLICATIONS FOR POLICY, PRACTICE, AND RESEARCH

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My paper will focus on the findings and implications of a two-year longitudinal study conducted under a grant from the Wisconsin Center for Educational Research and the National Institute of Education (Tabachnick, Zeichner, Densmore, & Hudak, 1983; Tabachnick & Zeichner, in press; Zeichner & Tabachnick, in press). This study of the development of teaching perspectives by four beginning teachers will be considered from two vantage points.

First, the study will be viewed as an inquiry aimed at illuminating important aspects of the process of learning to teach during the first year. The findings will be discussed in relation to the literature on teacher socialization and competing theories regarding (1) the degree of stability or instability in the development of teaching perspectives during the transition from student teacher to teacher (Are the effects of university teacher education washed out by school experience?), (2) the key individual and social factors that influence the development of teaching perspectives, and (3) the role of individual intent and institutional constraint in the development of teaching perspectives (the degree to which first-year teachers are willing and able to employ independent judgment and personal discretion in their work). I will focus on how the findings of our study appear to confirm or challenge existing theories of beginning teacher socialization and the findings of specific studies, including our own earlier work at Wisconsin.

The research reported in this paper was funded by the Wisconsin Center for Education Research, which is supported in part by a grant from the National Institute of Education (Grant No. NIE-6-81-0009). The opinions expressed in this paper do not necessarily reflect the position, policy, or endorsement of the National Institute of Education.

Second, the study will be considered as an examination of the first year of teaching within the context of the teacher induction literature. Findings will be summarized on the nature of supervision and staff development experienced by the four teachers. These findings will then be discussed in relation to the literature that has sought to document the status of induction-year assistance and assessment. The correspondence of the four teachers' induction experience with "induction" as described in the literature will be considered. I will also compare the experiences of the four teachers to the induction experiences that have been recommended in the literature for the last 20 years (e.g., reduced work load, opportunities for discussion with other beginning teachers, and opportunities to observe more experienced teachers) to determine whether recommended induction practices are evident in the experiences of these four teachers.

Methodology

During the first phase of our work, which began in the spring of 1981, we examined the teaching perspectives of 13 student teachers enrolled in an elementary teacher education program at a large midwestern state university, and we documented the development of teaching perspectives by these students during their 15-week student teaching experience.

Teaching perspectives have been defined by Becker (1964) as a "coordinated set of ideas and actions which a person uses in dealing with some problematic situation." According to this definition, perspectives differ from attitudes, because they include actions and not merely dispositions to act. Also, unlike values, perspectives are defined in relation to specific situations and do not necessarily represent generalized beliefs or teaching ideologies.

During this first phase of our work, we sought to identify through interviews and observations the teaching perspectives of the 13 student teachers in relation to four specific domains: knowledge and curriculum, the teacher's role, teacher-pupil relationships, and student diversity, and to identify changes that took place in these perspectives during the semester. We also sought to identify various individual and social influences on the development of these perspectives.

During the next year (1981-82), we followed four of the original group of 13 students into their first year of teaching and asked two broad questions related to the general theme of teacher development:

1. How are the teacher perspectives evident at the end of student teaching strengthened or modified during the first year?
2. What individual and social factors influence the continuing development of teaching perspectives?

During this second phase of our work, we continued to use the four orienting categories of perspectives to describe teacher ideas and actions. Each of the four categories was further defined in terms of several specific dilemmas of teaching that had emerged from the analysis of the data in the first phase of the study (Table 1).

At regular intervals from September 1981 to May 1982, we spent three one-week periods with each of the four teachers. Using a variety of quantitative and qualitative methods, we observed the classrooms of the four teachers and interviewed the teachers, their principals, and selected pupils and colleagues, in addition to collecting a variety of documents such as curriculum guides and teacher handbooks.

The teachers, who were all women, worked in a variety of settings: one in an urban, one in a rural, and two in suburban schools. They were in schools that served very different kinds of communities--one school served children of upper middle-class professionals and corporate managers, and a second school served children of largely unemployed industrial workers. Three teachers worked in self-contained classroom settings with minimal departmentalization, and the fourth teacher worked in an architecturally open-plan school with complete departmentalization within teaching teams. Three were the only first-year teachers in their respective buildings, but one teacher had access to one other beginning teacher in her building. Two were the only teachers at their respective grade levels, and two teachers worked with other teachers who taught the same grade levels, or, in one case, the same pupils. Three of the four teachers taught at the seventh- or eighth-grade levels, and one teacher taught the fourth-grade (Table 2).

All of the teachers left the university with fairly similar teaching perspectives, according to our original typology. Three of the first-year teachers worked in settings whose institutional bias was not generally supportive of the teaching perspectives they brought with them. One teacher worked in a school whose institutional bias generally encouraged the continued development of her initial perspectives toward teaching.

Table 1

Eighteen Dilemmas of Teaching[*]

Knowledge and Curriculum

1. Public knowledge--personal knowledge
2. Knowledge is product--knowledge is process
3. Knowledge is certain--knowledge is problematic
4. Learning is fragmented--learning is holistic
5. Learning is unrelated--learning is integrated
6. Learning is a collective activity--learning is an individual activity
7. Teacher control over pupil learning: high--low

Teacher-Pupil Relationships

8. Distant--personal teacher-pupil relationships
9. Teacher control over pupil behavior: high--low

The Teacher's Role

10. The teacher's role is determining *what* to teach
11. The teacher's role is deciding *how to* teach:
    bureaucratic--functional--independent
12. The teacher's role in relation to school rules and regulations:
    bureaucratic--functional--independent

Student Diversity

13. Children as unique--children as members of a category
14. School curriculum: universalism--particularism
15. Student behavior: universalism--particularism
16. Allocation of school resources: equal--differential
17. Common culture--subgroup consciousness emphasis in school curriculum
18. Career orientation in relation to student diversity:
    little restriction--restricted

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[*] The complete operational definitions for each of the 18 dilemmas are presented in Tabachnick, Zeichner, Adler, Densonore, and Egan (1982). Wherever possible, we used labels similar to those used by Berlak and Berlak (1981) in order to minimize the number of new labels and terms.

Table 2

The Four Teachers: Student Teaching and the First Year

	Student Teaching	The First Year
Hannah	4th-5th grade Total departmentalization within teams Suburban	8th grade Self-contained/minimal departmentalization Rural Only teacher at her grade level Only first-year teacher in her school
Rachel	4th-5th grade Self-contained class Urban	7th grade Self-contained/minimal departmentalization Urban Only teacher at her grade level Only first-year teacher in her school
Beth	5th grade Self-contained class Urban	8th grade Heavy departmentalization within teams Suburban One of nine teachers at her grade level Only first-year teacher in her school
Sarah	Junior primary (pre first grade) Self-contained class Suburban	4th grade Self-contained minimal departmentalization Suburban One of three teachers at her grade level One of three first-year teachers in her school

Findings--Phase I

At the end of the first phase of our study, we concluded that student teaching did not generally result in substantial changes in teaching perspectives. With the exception of 3 of the 13 student teachers who chose to comply strategically with the demands of their work settings, teaching perspectives solidified but did not change direction over the course of the semester. For the most part, students became more articulate in expressing and more skillful in implementing the perspectives that they had possessed in less developed form at the beginning of the semester (Tabachnick et al., 1983; Tabachnick & Zeichner, in press).

These findings generally support the position of Lortie (1975) and others who argue that student teaching plays little part in altering the cumulative effects of prior socialization. On the other hand, our findings appear to challenge those of Hoy and Reese (1977) and others who contend that student teaching exerts a powerful and homogenizing influence on student teachers' perspectives. Our findings also challenge Lortie's position, however, by depicting student teacher socialization as a more negotiated and interactive process than he theorizes it to be, one which entails more interplay between individuals and organizational constraints and encouragements.

These findings from the first phase of our study suggest several directions for research on student teacher socialization and for the conduct of student teaching programs. Our finding that student teachers for the most part are able to control the direction of their socialization and to develop more elaborate versions of the perspectives evident at the beginning of the semester is contrary to the conventional wisdom in the field and to the results of numerous studies (including some of our own earlier work) which have indicated that student teachers' attitudes and perspectives are significantly altered during student teaching.

As is the case with any research of this kind, findings related to the socialization of student teachers cannot be interpreted apart from consideration of the nature of the student teaching program that provides the context for an investigation. One cannot assume that all student teaching programs pose the same constraints and encouragements for students and that the socialization of student teachers takes the same form and has the same meaning in different institutions. The substance of particular student teaching programs (e.g., forms of supervision, expectations, and requirements for students), the characteristics of specific placement sites, and the place of student teaching in the overall preservice program all necessarily affect the outcomes of student teacher socialization.

In the program that we studied, students had opportunities both before and after the beginning of the semester to give some direction to their experience. For example, students actively participated in the selection of their placement sites and, for the most part, placed themselves in situations that they felt would enable them to develop in desired directions. Also, field requirements for student teachers and specific expectations for their performance were largely negotiated among students, cooperating teachers, and supervisors. The university prescribed very few requirements that all student teachers were expected to fulfill and encouraged students to take active roles in determining the substance of their program. The university's stance toward program content as "reflexive" rather than "received" was consistent with students' active roles in the placement process and probably contributed to some extent to the continuity in the student teachers' development.

The nature of supervision in the program also encouraged students to clarify their perspectives toward teaching and, probably, to develop in a direction consistent with their entering perspectives. The weekly student teaching seminars with supervisors, the "inquiry-oriented" field assignments that students were required to complete, and the student teacher journals that were an essential part of the supervisory process were designed to encourage greater clarity about the substance of teaching perspectives, to promote a reflective or analytic stance toward teaching practice, and to push students to use personal discretion and independent judgment in their work. All of this suggests that under certain conditions it may be possible to help student teachers exert some control over their situations rather than being passively controlled by them.

The question of which specific dimensions of student teaching programs are related to particular socialization outcomes clearly needs further investigation. Our study underlines the inappropriateness of viewing student teaching experience as a unitary entity unrelated to specific program content and the contextual factors that exist in particular institutions. Future studies of the impact of the student teaching experience on the development of teaching perspectives should be designed to investigate the relationship of specific dimensions of programs and contextual factors to socialization outcomes.

It is not a question of whether Lortie's analysis is more accurate for student teachers and student teaching in general than the analyses of Hoy and

Reese or our own study. All of these explanations probably offer useful insights for some situations and some students. The challenge that lies ahead is to understand more about student teacher socialization in different contexts and for different students.

Findings--Phase II

For the most part, the literature on beginning teacher socialization has emphasized central tendencies of development in groups of beginning teachers while assuming school contexts to be relatively homogeneous and free of contradictory socialization pressures. This strategy tends to obscure important differences among teachers and among and within schools and is problematic, given the findings of our study.

The findings from the second phase of our study suggest that the continuing development of teacher perspectives during the formal transition from student teacher to teacher is much more varied and context-specific than is typically portrayed in the teacher socialization literature. No one explanation offered in the literature can account for the induction experiences of these four teachers, including (1) explanations of the degree of continuity or discontinuity in teacher development, (2) explanations of the key influences on beginning teacher development, and (3) explanations of the balance between individual intent and institutional constraint. The journeys of these four teachers from the beginning of student teaching to the end of their first year of teaching must necessarily be viewed in a manner that accounts for both the uniqueness and the commonality of their experiences.

Although these four teachers began their first year of teaching with fairly similar teaching perspectives, there were significant differences in the teachers' abilities and inclinations to implement their preferred perspectives and in the nature of the constraints and opportunities presented to teachers in each school. Despite the fact that three of the four teachers worked in very different situations as first-year teachers than as student teachers (different in the kinds of constraints, possibilities, school traditions, and cultures), only one of the four teachers conformed to the commonly accepted scenario and significantly changed her perspectives in a bureaucratic direction in response to the pressures of organizational demands. Two of the teachers maintained, with varying degrees of success, significant elements of their perspectives that were in conflict with the institutional biases in their schools. With the support and encouragement of a few teachers in her school, the fourth teacher continued on a course of development that was already evident at the end of student teaching. Although this teacher saw herself as becoming less idealistic over the course of the year (e.g., having to follow the textbook more and feeling less in control of her classroom than as a student teacher), the essential characteristics of her initial perspectives were still evident at the end of the year and were strengthened and refined during the course of the year.

To analyze the data, we used an elaborated version of Colin Lacey's (1977) conceptual framework of social strategies to describe the nature of the interactions between the initial perspectives of the four teachers and the institutional constraints and encouragements in each school. I'll briefly summarize the experiences of the four teachers through the lens of "social strategy" to demonstrate one aspect of the varied nature of the socialization experiences of the four teachers.

Lacey challenges Becker's situational-adjustment notion that individuals are likely to turn themselves into the kind of person that the situation demands and proposes the construct of social strategy as a heuristic device for understanding the degree to which individuals are socialized into their roles. Lacey's ideas rest on the important distinction between socialization as value commitment and as behavioral conformity. He identifies three different social strategies:

1. Internalized adjustment. Individuals comply with an authority figure's definition of a situation and believe this conformity to be for the best. They willingly develop into the kind of person the situation demands, showing both behavioral conformity and value commitment. This strategy corresponds to Becker's notion of situation adjustment.

2. Strategic compliance. Individuals comply with the constraints posed by a situation but retain private reservations about doing so. They do not act in ways consistent with their underlying beliefs; their outward conformity is an adaptive response without the corresponding value commitment on which the behavior presumably rests.

3. Strategic redefinition. Individuals make successful attempts to change institutional constraints without the formal power to do so. They attempt to widen the range of acceptable behaviors in the situation and to introduce new and creative elements into the social setting.

In our analysis we made two modifications of Lacey's original conceptual model. First, we modified the category of strategic redefinition to include unsuccessful as well as successful attempts to change institutional constraints. We also elaborated the original model to enable us to account for the two different institutional context experiences each teacher had by adding a contextual factor to the definition of social strategy--similar or dissimilar context. This factor considers the overall similarity or dissimilarity between the two institutional contexts for each teacher and how supportive or unsupportive the institutional bias is at each stage of the expression of individual teacher perspectives.

Table 3 describes the dominant social strategy of each of the four teachers at each stage of their career. As can be seen from the table, two of the four first-year teachers (Hannah and Rachel) sought to redefine the boundaries of acceptable behavior in their situations. Hannah was successful in doing so, but Rachel was not. In both cases, the institutional bias in the school was not supportive of these efforts at strategic redefinition. The reasons why the attempts at strategic redefinition failed or succeeded include the degree to which teacher perspectives were developed at the beginning of the year, the strength with which they were held, the "coping skills" and political sensitivity of the teachers, the degree of contradiction between formal and informal school cultures, and the reactions of the pupils to the teachers (Tabachnick & Zeichner, in press).

The other two teachers (Beth and Sarah) adjusted to the dominant norms and values in their schools. Sarah, who was in a situation very similar to the school where she student taught, was able to continue developing the teaching perspectives she had held during student teaching. Beth, who taught in a school very different from the one that she had worked in as a student teacher, appeared to shift away from her entering perspectives toward perspectives more consistent with those encouraged by the dominant formal and informal cultures in her new school. This use of Lacey's framework for viewing the socialization of the four teachers demonstrates clearly the varied nature of teachers' induction into their roles.

A second interest in our study was to examine the nature of the institutional influences on the four teachers--how the teachers learned what was expected of them, how desired behaviors were reinforced, and how organizational sanctions were applied. Here, as in the case of individual teacher social strategies, we also found more variation than homogeneity. We used a modification of Richard Edwards' (1979) three forms of organizational control (direct, bureaucratic, and technical) to examine the formal control structures in each school. Edwards defines these three types of institutional control mechanisms in relation to three specific aspects of the work process:

Table 3

Dominant Social Strategies Employed by the Four Teachers During Student Teaching and the First Year

	Student Teachers	The First Year
Hannah	Strategic compliance	Successful strategic redefinition (dissimilar context)
Rachel	Internalized adjustment	Unsuccessful strategic redefinition (dissimilar context)
Beth	Internalized adjustment	Internalized adjustment (dissimilar context)
Sarah	Internalized adjustment	Internalized adjustment (similar context)

1. The direction of work--the specification of what needs to be done, in what order, with what degree of precision, and in what period of time.

2. The evaluation of workers' performances--how work is supervised and the performance of workers assessed.

3. Discipline--how workers are sanctioned and rewarded in attempts to elicit cooperation and compliance with institutional norms.

With direct control, superordinates personally supervise the actions of workers and through close monitoring of workers' actions attempt to ensure that workers comply with organizational norms. With bureaucratic control, controls are embedded into the social structure of the work place and are enforced through impersonal rules and hierarchical social relations. With technical control, an organization's control over its members is embedded into the physical structure of the labor process, and jobs are designed in ways that minimize the need for personal supervision by administrators and the need to rely on workers' compliance with impersonal bureaucratic rules. As Sykes (1983) has pointed out, technical control over the processes and outcomes of instruction has commonly included the use of tests to ensure accountability, the development of teacher-proof curriculum materials, the creation of instructional management systems, management by objectives, and the like.

We found that there was generally very little direct and close supervision of the four teachers by their principals and other supervisors. Although all of the principals articulated expectations about what teachers were supposed to teach and how they should manage their classrooms, three principals made very little effort to ensure teacher compliance by direct classroom monitoring. This apparent neglect of the first-year teachers was typically a result of the principals' conscious decision to rely on experienced teachers to assume the responsibilities for inducting the new teachers:

> You rely upon your veteran teachers on your staff on the grade levels, because they've been here, they know where the materials are, they know the curriculum, and they are the ones that can give the best advice as to what things may have been tried and maybe weren't really productive in their classrooms. I lean very heavily on the veteran teachers on the grade level to assist the new teacher. If a new teacher still has lots of questions, she can find me.

As one would expect, numerous bureaucratic rules and regulations in each school attempted to dictate to varying degrees how and what to teach and how to manage pupil behavior in and out of the classroom. We found that bureaucratic rules such as those articulated in teacher handbooks gave the four teachers varying degrees of information regarding performance expectations and the limits beyond which organizational sanctions would be applied. We also found, consistent with Weick's (1976) notion of schools as "loosely coupled systems" and with Bidwell's (1965) notion of "structural looseness," that the first-year teachers were able to ignore or to openly violate bureaucratic rules when they chose to do so. The self-contained classrooms in three of the four schools, together with the minimal amount of supervision by the principals, weakened to some extent the controlling effects of the bureaucratic organization.

In all the schools, the most pervasive and powerful type of control was technical control exerted through the timing of instruction, teacher work loads, the form of the curriculum and curriculum materials, and the architecture of the school. Technical control reached into each of the four teachers' classrooms. For one teacher in particular (Beth), the pace of instruction, the open architectural plan, precise time schedules, and the performance-based curriculum all made deviation from the preferred patterns of teaching very difficult.

Nevertheless, technical control was less complete than other forms of control, was not as strongly reinforced by other forms of control, and was more easily ignored or manipulated by teachers. Technical control did not constitute an irresistible pressure for teacher conformity. Even first-year teachers managed at times to avoid or to redirect elements of technical control when they chose to do so. The interests and abilities of each teacher, both professional and sociopolitical, largely determined which constraints would be accepted or resisted, which opportunities would be realized or allowed to lapse.

An example of loose coupling in the technical control of instruction is one teacher's disregard for the curriculum guides provided at the beginning of the year:

> I've been handed great big folders of objectives for every single course, but they're so full of philosophy it's hard to weed out the exact things for each unit as you're going on. I looked at them and decided that they were too much to bother with.

In the final analysis, the constraints and opportunities presented to each teacher were determined by the interaction between these three institutional control mechanisms and the interaction between these formal controls and the school ethos and tradition communicated to the beginning teachers through the informal teacher, pupil, school, and community cultures. In school settings, particular combinations of formal and informal factors were most salient (parents, performance-based curriculum, pupil responses, suggestions of experts, and high work volume). The case studies describe the particular constellations of factors that interacted with the abilities and inclinations of the first-year teachers in each instance. There was much variation in the nature of the organizational pressures and the individual responses to these pressures.

I would like to examine briefly the experiences of the four teachers from the point of view of the literature on teacher induction. Defino and Hoffman (1984) state that "the once neglected lives of first-year teachers have in the course of just a few years become the focal point of considerable activity. State mandated induction programs are proliferating at a rate almost too rapid to monitor" (p. 23). Their survey of state-mandated induction programs indicates that 15 states have initiated activities related to induction programs within the last five years. Feistritzer's (1984) book, The Making of a Teacher, identifies activity in 25 states related to some form of supervised post-graduate internship experience.

The supervision and staff-development support experienced by the four teachers in our study was generally consistent with that described in the teacher induction literature prior to the recent flurry of activity. The teachers were provided with little or no formal staff development that gave explicit recognition to their special status as first-year teachers. As was mentioned previously, formal supervision and assessment of their work by principals and supervisors was minimal, and the little that did occur was not focused primarily on issues of curriculum and instruction:

> Mainly the only things he commented on...he didn't comment on terribly much. He said the introduction of the lesson went well and that I seemed very well organized. But that's all he said about the teaching aspect...Then he just commented that discipline was good and that I had respect for the children and children had respect for me. And I thought that it was kind of strange that he didn't go into the other things more...His whole emphasis is on how everything looks from the outside. Whether you accomplish anything, he never gets around to the point of it. It's just how it looks. (Sarah's comments about her only formal observation by her principal.)

Most of the support and assistance provided to these teachers was given informally by colleagues usually teaching at the same grade level. These informal attempts at influence were often contradictory in nature. They were limited by the structural constraints of the teachers' work rather than by the reluctance of experienced teachers to infringe on the professional autonomy of a neophyte, as some have suggested. As one teacher commented,

> During student teaching, there was always somebody there...giving you suggestions and praises and things, and here you are just in a little classroom. Nobody sees you all day long...I haven't received that much help

> (from her two co-grade-level teachers)...It's mainly that there's no time to have apart, where you can share ideas and ways to teach things. There's just no time in the day to do that...There's no time set up specifically for it, and if you don't give a teacher specific time for it, they're going to use it for other things, 'cause there's so many other things they could be doing.

For at least the last 20 years, the induction literature has offered a series of very consistent recommendations for the improvement of the lives of first-year teachers. It has recommended such job-embedded supports as reduced work loads, extra released time, reduced class sizes, exemptions from nonteaching responsibilities, structured opportunities for discussions with other beginning teachers, and the opportunity to observe and be observed by experienced colleagues. There is almost no evidence of any of these job-embedded supports in the experiences of the four teachers in our study. The four teachers, as Lortie suggests, assumed full responsibility from the first working day and performed the same tasks as their more experienced colleagues. In addition to full instructional responsibilities, these teachers also assumed additional responsibilities, serving on curriculum committees, advising student councils, and coaching Pom-Pom and track. In one case, a teacher was hired partly because of her willingness to assume these extra noninstructional duties.

Implications for Policy and Practice

As a study of learning to teach and a study of induction, our work has several implications for policy and research in teacher education. From what I have said thus far about our findings, one would be left with both an optimistic and a pessimistic picture of the lives of beginning teachers. The optimistic picture would be in relation to the socialization questions that were addressed in our study. Our findings indicate that it is possible even for first-year teachers (given particular conditions both individual and social) to exploit openings created by weak and contradictory efforts at institutional control and to express elements of their preferred teaching perspectives even in the face of institutional pressures to do otherwise. The effects of university teacher education are not necessarily "washed out" by school experience, and beginning teachers do not necessarily abandon their ideals during their first year, as has been so often claimed.

The pessimistic picture would be in relation to the lack of assistance and support provided to these four teachers. None of the practices recommended in the literature for the last 20 years were evident in the experiences of these teachers, and almost no formal provisions were made for their special status as first-year teachers. This lack of induction-specific support was the case despite all of the reasons, both logical and empirical, that have been offered in the literature in support of the need for such assistance (Zeichner, 1982).

There is more that needs to be said, however, about the allegedly optimistic picture our study paints of the resiliancy of individual teachers in the face of institutional pressures. Specifically, while our interactionist research approach has challenged functionalist accounts of teacher socialization that portray beginning teachers as passive recipients of institutional values (giving little or no direction to the quality and strength of their induction into teaching), what I have said thus far has not indicated the very narrow range within which individual/instructional negotiations took place.

Although each of the teachers, with the exception of Beth, was able to find some room to express elements of her teaching perspectives (for Sarah it was not a struggle), none of the teachers challenged the very limited teacher roles that they and their colleagues were confronted with. For the most part fundamental decisions about what would be taught and how (objectives, content, materials, pace of instruction) had been made by others removed from the classrooms of the four teachers and there were very little positive incentives or opportunities for the teachers to exercise independent judgment regarding goals for instruction, the design of learning activities, and the means for their evaluation. In fact, in many cases it was not even necessary for the teachers to bring knowledge of the content to be taught to the task.

Lanier and Little (1984) argue that

> Opportunities to exercise informed judgment, engage in thoughtful discourse, and participate in reflective decision making are practically nonexistent in teaching as presently defined. (p. 53)

Our data generally support this point of view (for both the four teachers and their experienced colleagues) despite the existence of individual/institutional negotiations and the varied individual response in terms of social strategies.

Significantly, in none of the four cases were the situations set up to encourage teachers (beginning or experienced) to participate in decisions and to exercise independent judgment about the core aspects of their work. Staff development initiatives and numerous bureaucratic and technical controls served to undermine teachers' sense of professionalism and implicitly communicated a message which was very similar to Gary Sykes' (1983) characterization of the message sent to teachers by recent policies affecting teacher work:

> We don't trust you; we have little confidence in your competence; we are going to scrutinize you carefully and wherever possible constrain your discretionary behavior. (p. 92)

Beth was essentially satisfied with the limited autonomy that she was given over her work, but the others were less happy with the gap between their initial expectations for opportunities to exercise judgment and the realities of their workplace. Even Sarah, who was the teacher in a school that was very supportive of her preferred perspectives, came to characterize the work of teaching as "having to put up with people who don't think you know too much." Ryan (1982) argues that the first year of teaching is the teachable moment in the career of a teacher. What these four teachers were learning about the degree of occupational self-direction inherent in the teacher's role from observing those around them can only serve to undermine the extent to which the occupation can draw upon the resources and capabilities of these teachers in the long run.

There are at least two possible motives for seeking to gain a greater understanding of the factors related to the development of teaching perspectives. Specifically, greater knowledge about the development of teaching perspectives could be utilized either to enhance or to limit and control the expression of individual perspectives and the occupational self-direction and independent judgment exercised by teachers. It is our belief (in part supported by our data) that learning for both pupils and teachers is greater and deeper when teachers (individually and collectively) are permitted to exercise their judgment with regard to the content and processes of their work in their classrooms and to give direction to the shape of schools as educational environments. We believe it is counterproductive, although less risky, to attempt to control the actions of teachers more closely. We see the challenge offered by the findings of our study in pointing to the need for the creation of more democratic conditions in our schools that cultivate the educational leadership of teachers--conditions that assume that teachers can be adequate and that they are capable of participating along with administrators and parents in fundamental curricular and organizational decisions.

Griffin (1984) has identified two approaches in the recent flurry of induction-related activity--the assessment and assistance models. In the former, the induction program is a means to secure information regarding the competence (according to certain criteria) in order to make decisions regarding retention or dismissal. In the latter, the induction program provides resources to new teachers in the belief that the resources will help them to improve their teaching.

Obviously there are many things that beginning teachers need to learn that preservice teacher education cannot teach them. Efforts to provide first-year teachers with the kinds of assistance lacking in our study and recommended in the literature should be strongly encouraged. In our view, however, we need to couple these efforts to ease the transition of beginning teachers with systematic efforts to reform the structures of teaching and workplace characteristics affecting all teachers. In our view, neither of the two current approaches to induction-year support address this central issue.

The lack of opportunities for teachers to exercise occupational self-direction is not new. Lanier and Little (1984) summarize a variety of empirical evidence that shows that a norm of intellectual dependence on external expertise was established for teaching in America in the late nineteenth century. Neither will the kinds of changes that we and others are proposing likely come easily or quickly. However, we are in agreement with Lee Shulman (1983) who has argued that talk of improvements in the teacher education process or of dramatic changes in the quality of those who opt for teaching seems pointless until we address the conditions that demean the dignity of the occupation itself. Teacher induction cannot and should not be discussed or addressed in isolation from this fundamental problem of the occupation.

I want to be clear that I'm not arguing against the kind of staged entry that is evident in the Charlotte-Mecklenburg career ladder plan (Schlechty, 1984). There should be, in my opinion, increasing responsibility given to teachers as they gain more experience and demonstrate their competence on instruction-related tasks.

I am also mindful of Judith Warren Little's warning expressed at a conference last July that we need to be careful not to be too easily seduced by collegial authority. Little (1984) raised two important questions regarding this issue: (1) Is the quality of solutions to problems better with increased collegial authority? (2) Is the holding power of the occupation improved? While there is some empirical evidence that increased collegial authority among teachers enchances teacher satisfaction and school effectiveness (Pratzner, 1984; Conway, 1984), the relationships involved are fairly complex. There is much that is now proposed on the basis of faith and logic or on moral ground that remains to be documented empirically.

Little (1984) also made a particularly significant point in stating that a good environment for teaching (one with norms of collegiality, risk taking, and experimentation) is not necessarily the same as a good environment for learning how to teach. In her paper, Little described one of her exemplary schools where collegiality and the pace of innovation were high but where beginning teachers were frustrated because adjustments had not been made for the induction of new teachers into an already ongoing system. Beginning teachers clearly need more support than most now get and more support than most experienced teachers.

I do feel, however, that plans for induction programs, for higher standards in preservice teacher education, and so on need to occur along with a shift in the current balance between top-down executive authority (usually deficit oriented in its approach) and responsible collegial authority (responsible in that it is staged) where teachers are included in a more significant way in making the decisions that matter. I am willing to place my bets that "meeting the needs of our children" (Reagan, 1984) can be better met by putting our limited resources into making schools more educative places for teachers than into projects that implicitly devalue the teacher's work and limit the teacher's ability to exercise judgment. These top-down executive directives may minimize the effect of weak and lazy teachers but they will also probably minimize the effects of the many inspiring and hard-working teachers that are now in our schools.

Finally, we keep hearing that preservice teacher education, induction, and inservice are inseparable. In this context it is important to point out that interventions into the workplace of the teacher are in fact interventions into preservice education as well. Recent studies (Lanier & Little, 1984) indicate that over 70% of college of education faculty have K-12 teaching experience, the majority for three or more years. Thus, those of us who conduct preservice teacher education have been shaped in part by the same conditions under which most K-12 teachers now work. Unless the reform of preservice teacher education includes attention to the reform of school workplace conditions, efforts to reshape the character of our preservice programs are not likely to succeed.

Implications for Research

First, there is clearly a need for more longitudinal studies of beginning teacher socialization that go beyond a focus on central tendencies in teacher development. While our study provided some information about the institutional-individual interactions that are related to the development of individual teaching perspectives, there is clearly much that remains to be done to clarify the particular factors, both individual and social, that affect the development of perspectives. It would be interesting, for example, to conduct socialization studies in Florida, Georgia, and Oklahoma to see if the process of learning to teach is altered where deliberate attempts have been made to alter the induction year.

Second, although our study examined influences on the development of teaching perspectives at both the classroom and school levels, we did not give much systematic attention to the socializing influence of factors outside of the schools and the university. Many studies have documented how social practices, policy initiatives, and forms of meaning and rationality in the society as a whole and in particular communities have affected the circumstances of teachers' work (cultural stereotypes of women, the bureaucratization of work). The linkages between these and other cultural factors and the development of individual teaching perspectives have not been well established. Much empirical work remains to be done to clarify the nature of the influence of cultural codes and the material and social conditions in the society and in particular communities on the development of perspectives by individual teachers.

Finally, Simon Veenman (1984), a Dutch teacher educator, has hypothesized in his recent review of the literature on beginning teachers that the "social strategies" discussed in our study and in the studies of Lacey (1977) may be connected with certain cognitive developmental stages identified by developmental psychologists. There is an important integration that needs to occur between the sociological orientation of our own and similar studies and the work of developmental psychologists who have recently directed their efforts to the study of teacher education.

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BEGINNING TEACHERS: PARACHUTISTS BEHIND THE LINES MAY BE IN NEED OF A CHAPLAIN

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During the 20 plus years that I have been plying the teacher education trade, I have worried over a number of issues ranging from who teaches to who teaches teachers. I worry fairly regularly about what happens to our teacher graduates once they enter their own classrooms. As a matter of fact, I have sporadically and somewhat spasmodically studied groups of beginning teachers in an attempt to get a closer look at what happens to them. In what is getting to be something of a ritual, I have ended the reports of these studies with a plea for some mechanism to support beginning teachers during their entry period. Without using the word, I have, in effect, been calling for an induction program. As a practitioner of teacher education, I have had a certain kind of experience with induction activities, and I have developed a somewhat offbeat hunch. First, the experience; then, the hunch.

The four institutions where I have worked as a teacher educator have had either no training relationship with the graduates of their programs or a camouflaged relationship. While the institutions vary immensely in their interest in and effectiveness at initial training of teachers, they have been quite consistent in their approach to recent teacher graduates. They have done nothing to help new teachers make the transition from teacher in training to full-time teacher. They have done nothing to assist new teachers in coping with the inevitable problems of taking generic training and fitting it to an all-too-specific situation. The only contact beginning teachers have with these alma maters is that on some afternoon in the late fall, they drag themselves home from school and find a personalized computer letter from the development office inviting them to live up to their adult responsibilities and contribute to the new alumni drive.

The way teacher training institutions send new teachers out to the field always brings to my mind scenes from those old World War II movies. An idealistic recruit volunteers for the paratrooper corps. Veterans of former battles prepare them for the coming invasion. Chuck full of skills and weaponry after a few practice jumps, they are loaded aboard planes that take off and head into the skies over enemy territory. Once behind the lines, their instructors, with thumbs up and a gentle push, send them off into the inky blackness. Some float down, land gracefully, join the battle, and become heroes. Some have a gentle landing amid minefields and go up in a puff of smoke. Some get hung up in trees and church spires, easy prey to enemy guns. A few have a fast ride down and a short military career because their chutes don't open. And while all this bedlam and mayhem is happening, the trusty trainers are flying back to the base to induct another group of recruits. They rarely learn what happens to their recruits and how effective their training turned out to be.

There are undoubtedly many reasons for this separation or isolation of the trainers from the professional lives of their former trainees. Among the possibilities are the following. Teacher education and school teaching exist in different institutions and, therefore, there is no incentive for trainers to follow trainees into their workplace. Trainers have schooled themselves in generic information about teaching, children, and schools. They do not have a great deal of specific information about the application of this information, except what they can recall from their own efforts to apply general information and theory in their own classrooms. In effect, they have little help to give--trainees leave an institution to teach in very diverse locations, and it is all but impossible for their trainers to follow up with them into the field. There is not enough time or money. And besides, trainers are struggling with their own current job demands.

At the institution where I taught before joining the Braheins in Boston (a large midwestern university that bears a striking resemblance to The Ohio State University), I noticed a strange phenomenon. Students who had graduated from our teacher education programs in June and had obtained teaching positions in the local area were showing up in our master's program in the fall. This, of course, was very encouraging, since it seemed to me that obviously we had excited these students with our knowledge of the human condition. I made a fatal error, though, and talked to one of the more candid students. I discovered that he was taking a course in curriculum theory to pile up credits for the next stop on the salary scale. "But why curriculum theory?" "Because it's offered on Wednesdays." "But aren't there other courses that you could take after school on Wednesdays?" "Well, I have applied for the master's program and curriculum theory is a required course." "How is it going? Is it helping you with your teaching?" "Dr. Ryan, are you kidding me?"

At the time, I had just finished a study of first-year teachers and thought there was something in the work that would be helpful to new teachers struggling with the myriad of problems that are the lot of most beginners. Also, I had come across some of the work done at the Research and Development Center for Teacher Education by Carolyn Evertson and her colleagues that prescribed activities to keep beginning teachers out of trouble and help their students learn something. I decided to offer a course for teachers who were beginning their teaching careers. The idea was to gather a group of beginning teachers from a nearby school district, work with them intensely starting two weeks before school started, and have weekly sessions with them after the fall semester started. The class would have several purposes. It was to be a support group for swapping successes and failures and trying to find solutions to specific problems. It was to be a study group, looking at the research on beginning teachers to get a conceptual overview of what happens to new teachers. It would be a story encounter group where they could read the accounts of other first-year teachers and acquire the emotional preparation and mental imagery for events that might happen to them. Also, I was going to visit them, if they requested, in order to be another set of eyes to analyze problems they might be having.

The course was offered, but in the process of working it through the university review process--(the subject for another more tactful paper), the course got rather badly mangled. Perhaps a flavor of this shift can be captured by the fact that my title for the course, "How to Survive as a First-Year Teacher" was considered a little too vulgar and changed to "Survival and Excellence in Teaching." Instead of being taught in a school district, it was taught on campus. Instead of starting just before school opened and carrying on into the fall, it was scheduled for the two-week intersession between the spring quarter and the summer quarter. I ended up drawing seven students, only four of whom were to be first-year teachers. Modesty and the awareness of many poor classes aside, I can say it was a good class. I wanted to do it again. I felt I was onto something. I followed up with my four beginning teachers. They were using the course materials and staying out of trouble. They were real supporters of the course. I was all set to assault the university and the local school district and bend them to my will. But I didn't. Instead I jumped at the chance to be a part of the Eastern Establishment. I left for Boston University. Perhaps someday, when my bags are finally unpacked, there will be another chance. In the meantime, I will mull over my offbeat hunch.

My hunch is that many new teachers need religion. I air this rather underdeveloped hunch with the full knowledge that it is bad taste to burden the discussion of induction with such an alien topic as religion. Religion is a troubling topic. Television, which some educators are calling the first curriculum, ignores religion also, except to report the extremes. The only aspects of the religious dimension of life that usually get aired are acts of religious fanatics, such as assassins and terrorists or religious protesters, be they antiwar or antiabortion. The underlying message that comes through is that religion is for the far-out, those who have abandoned themselves for a cause, those who are ready to pour blood on draft records or bomb abortion clinics.

In recent years, public schools have dropped religion into the null curriculum, out of sight and out of mind for our children. Teachers have responded to the fact of our nation's religious pluralism by acting as if religion does not exist. While this is particularly true of elementary and secondary schools, it is also substantially true for higher education. The treatment of religion on both state and private campuses is relegated to the liberal arts. Teacher education, which purports to prepare young people for their life's work, treats religion like the public schools, in the realm of unmentionable topics. My hunch has to do with this ignoring of religion and its effect on new teachers.

Most of the experience I have had with new teachers and reports I have read about this topic leave me with the strong impression that many, many beginning teachers find entry into teaching an extremely trying and stressful situation. Often, they feel failure for the first time. Their failure to cope with the demands of managing their classrooms is depressing and disorienting to them. They feel disappointed with themselves and with their chosen profession. And while this has been the case for some time, it seems to be taking more of a toll in recent years. More and more teachers are leaving the classroom earlier and earlier. More and more are sorry for entering teaching at all. In 1960, just below 10% of our teachers claimed they probably would not teach again if they could start over. In 1980, that percentage had more than tripled to 36%. The idealistic selection of a profession turns to sour grapes.

One possible explanation for these induction problems and the quick burnout that so many teachers report has to do with religion. My hunch is that the motivation for selecting teaching as a life's work has for many a religious dimension. They are drawn to teaching for spiritual reasons. They see teaching as a vocation, as a calling to do service. It is consistent with their religious views and a way to concretize their religious commitments. As they enter teacher education, they are thinking of themselves as doing the Lord's will. What they are met with in teacher education is, by and large, technical information on the psychological nature of children and the nature of teaching and learning.

The question is, though, how many of our teacher trainees have some form of religious motivation? And I must confess that I do not know. There are, however, substantial data to support the view that Americans are a deeply religious people, contrary to the vision of us that comes back to us from our television sets. For example, in 1980 the Connecticut Mutual Life Insurance Company had Research Associates, Inc., undertake one of the largest and most comprehensive studies of values ever commissioned in the United States. The results of the study seemed to startle the social scientists who did it but would have been no surprise to Alexis deTocqueville. DeTocqueville reported a deep strain of religious intensity in all parts of the America he visited in 1830. This recent interview-based study reports that 74% of Americans describe themselves as religious. Using behavioral indicators such as daily prayer, regularly reading the Bible, and doing religious works, one out of four (26%) Americans describe themselves as very religious. While only 44% go to church regularly, 96% believe in God. What the researchers conclude is that Americans are a deeply religious people and religious values are strongly held values, particularly at a time when people feel threatened by the decline of the family, affluence, new sexual mores, and increasing personal mobility. Religion is more and more seen as that force in the lives of Americans that can provide a personal anchor and a coherent meaning system.

Part of my hunch is that teachers are at least as religious as the rest of Americans. In fact, a case might be made that they come from the more conservative part of society. In any event, it would not seem too farfetched to assume that three out of four of the young people who enter our teacher education programs see themselves as religious. And, it seems at least plausible to suppose that a good portion of these students have some religious motivation behind entering what is widely considered one of the helping professions.

How, then, do we respond to their sense of mission? My experience is that we respond with skills and techniques. More and more, the great ideas that have been responsible for the flowering of education and the impressive history of its growth and development, particularly in our country, are being pushed aside by other material. The growth of field experiences and the emphasis on technical skills of teaching have taken their toll on the philosophical and historical foundations of education. Currently, the chance to intertwine professional work with the larger meaning system of one's life happens, if at all, outside of teacher education. The result is, I believe, that teaching is increasingly conceptualized by new teachers as a technical activity, a set of operational skills. They are in the classroom to get results, to increase student achievement. Socrates once said that the aim of education is to make people both smart and good. My speculation is that the young people who present themselves to us to become teachers have a much better sense of this dual educational mission than the ones who we send out to the field. Having an inadequate notion of what they are doing as teachers and not being able to connect the trials of beginning teachers with their religious meaning system, they find teaching somewhat meaningless and spiritually barren.

What this suggests to me is that efforts to address the world of the beginning teacher should provide more than technical first aid. The teacher as a whole person needs to be considered. Part of that consideration should be to link the deepest motivations and meaning system of new teachers to the work in which they are engaged. It may just be that many problems and issues of new teachers can only find solution in the energies and commitments that reside within their deepest being. At least, this is my hunch.

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BEGINNING TEACHERS: A SUPPORT SYSTEM AND A WARRANT OF SKILLS

Richard E. Dudley
Doane College

In 1981, the Doane College teacher education faculty significantly revised the teacher preparation program to include all of the following:

1. An extended "semester" of preparation which is taken in the summer following graduation, and which is required for certification
2. Increased entrance and retention requirements
3. A guarantee of placement in the teaching field
4. A support system for graduates during their first year of teaching
5. A warrant of the beginning teacher's skills to the hiring school district.

This paper describes the support system for first-year teaching graduates and the warrant of beginning teacher skills.

The Support System

The support system is intentionally designed to maximize input from other professionals early in the beginning teacher's experience. It is our belief that problems which lead to poor performance and resultant job dissatisfaction present themselves early in the teaching career and that a first year teacher who feels the presence of this support system will be more willing to recognize these issues and deal with them. The structure of the support system is designed to deal with these issues as they emerge--before they can develop into major concerns.

In the first six weeks of the school year, the Doane faculty member who supervised the beginning teacher's student teaching experience spends two full days and sometimes three days observing in the classroom of the beginning teacher. The purposes of these visitations are to provide a supportive presence, to reinforce the positive things taking place in the classroom, to indicate areas that have the potential to become problems to the beginning teacher, and to suggest alternative classroom strategies that were taught in the beginning teacher's certification program. During the same first six weeks, an experienced teacher currently employed in the same district spends three full days in the classroom of the beginning teacher. This teacher is selected by a local administrator based on similar subject matter and grade level assignments, teaching skills, and a willingness to provide support in this "buddy system." The experienced teacher, like the college supervisor, gives positive recognition for the good experiences in the classroom, may teach a demonstration lesson, shares bulletin board ideas, or lists alternative ways to manage individuals and groups of students.

The support system is maintained informally during the remainder of the academic year through phone calls to the Doane faculty member and through professional conversations with the "buddy" teacher.

The Warrant of Teaching Skills

In a written statement to hiring districts, Doane College delineates those areas in which it "guarantees" its graduates sufficiently prepared to meet the rigorous demands of the teaching profession. The guarantee does not go beyond the stated items; however, it is intended to be broadly inclusive of the skills generally recognized as required of teachers. The warranted teaching skills are as follows:

1. To relate well with students
2. To initiate helping relationships with students
3. To motivate students in positive ways
4. To select relevant goals for students
5. To prepare well-organized units and lesson plans
6. To select appropriate learning experiences
7. To build a good self-concept
8. To keep students active and motivated
9. To have good classroom control
10. To show poise in a wide range of settings
11. To be reliable
12. To provide an attractive learning environment
13. To be knowledgeable in the primary field of study
14. To show positive response to criticism
15. To demonstrate enthusiasm for teaching.

These skills are introduced in Practicum I, a three-semester competency-based sequence of coursework completed by all elementary education majors and by persons who complete the requirements for secondary education with a major in a subject matter area. The skills are further developed in the special methods classes (Practicum II), refined during the student teaching experience (Practicum III), and evaluated in an extended experience of graduate coursework required for certification (Practicum IV). The warrant states that Doane College will provide inservice training free of charge to the district in any of the warranted areas in which the Doane graduate is found to be inadequately prepared or performing poorly during the first year of teaching.

Implementation of the warrant follows six steps: hiring, warranting, observation, identification of deficiencies, planning inservice, and final evaluation.

Step 1. The local school district hires a beginning teacher from Doane College. As a part of the revised program at Doane College, we guarantee placement in a teaching position if students successfully complete the program and meet certain stated personal obligations involved in the process of applying for teaching positions. Failure by Doane to place a graduate assures that graduate of an additional year of education without charge for tuition.

Step 2. The school district is informed of the warrant and provided a list of competencies. After the Doane graduate signs a contract, a letter is sent to the school district informing the district of the warrant system and providing a list of warranted competencies -- skills that have been selected as essential to beginning teachers and administrators from a search of current literature. This list is in compliance with state and federal regulations for the education of all children. The local district may have additional expectations, for which it assumes inservice training responsibility.

Step 3. During routine evaluations of the beginning teacher, the observer rates achievement of the warranted competencies. According to Nebraska statute, school administrators must conduct at least one classroom evaluation of every beginning teacher each semester for the duration of a full class period. These evaluations initiate the file for granting tenure. On an approved rating form, the administrator rates the teacher for competencies rquired by the local district. In addition, the administrator evaluates the beginning teacher on the competencies warranted by the Doane Teacher Education Program. Thus, the administrator conducts the two evaluations simultaneously and does not have to spend additional time for a separate evaluation.

Step 4. The local school district notifies Doane College and the beginning teacher of the deficiencies that have been observed. It is the responsibility of the local school district to submit a written list of the deficient competencies using an evaluation form supplied by Doane College. The form specifies the date(s) of the evaluation and describes the teaching setting and the activity.

An off-shoot of this step is that the administrator acts as an independent rater of Doane's Teacher Education Program. If one beginning teacher shows inadequate competence in certain skills, the deficiencies can be remediated through inservice without revision of the undergraduate training program. However when several beginning teachers evaluated by different administrators show less than adequate performance in the same or similar competencies, then revisions are made in the undergraduate program.

Step 5. A Doane College representative meets with the beginning teacher and the district administrator(s) to plan the inservice training program. When geographical distance makes a personal meeting impossible, planning is handled through a telephone conference.

Within two weeks after receiving a written confirmation of less-than-adequate performance, a faculty member from Doane makes a contact with the administrator and the beginning teacher, preferably in person. In some instances, the beginning teacher may choose to include the buddy teacher in the conference.

This meeting is intended to accomplish several objectives. It is important that the beginning teacher fully accept the accuracy of the evaluation if it is to be used as a springboard to refine teaching skills. When the beginning teacher believes the evaluation to be biased or unfair, there is little commitment to inservice training for refinement of those skills. The beginning teacher and the administrator clearly define the expectations of performance and broad goals. Then the Doane faculty member assists in defining a specific objective that will become the focus of inservice training. The materials available for meeting the objectives are reviewed by all of the parties. These include video programs commercially prepared or made by Doane faculty, a reading list of books, journal articles, and other monographs. The Doane faculty member and the beginning teacher make decisions about the process for the inservice and about completion dates. It is possible for the buddy teacher to maintain involvement with the beginning teacher throughout this process. The administrator is informed of the timelines and the materials to be used. If the local administrator wishes the inservice to be provided to the total teaching faculty, additional arrangements can be provided to the total teaching faculty, and additional arrangements can be made for large-group presentations, discussion-centered meetings, or other suitable meetings. In these instances, the district pays for materials and other costs. Evaluation procedures may include an individual conference, videotaped observations of the beginning teacher, measures of student performance, or other procedures used by the district.

When the Doane faculty member has concluded Step 5, it is his or her responsibility to see that all books, videotapes, audiotapes, and workbooks are sent to the beginning teacher according to the agreed-upon timelines. The beginning teacher may choose whether or not to use them.

Step 6. The administrator conducts a final evaluation of the beginning teacher and shares the results with Doane College and the beginning teacher. Neither Doane nor the local district can force beginning teachers to complete learning activities if they have decided not to work for improved teaching skills. Beginning teachers who elect to use the materials, to work with the available resources, and to follow the inservice procedure begin a growth experience in the classroom that may be unparalleled at any point in their teaching career. Beginning teachers who elect not to participate in inservice learning activities are also electing to end their careers in professional education.

INSERVICE TEACHER EDUCATION

With the increasing age and distancing of the teaching force from preservice training, the critical issues of continuing professional development, retention in the service of teaching, remedial training, and dismissal must be addressed by those who develop and implement teacher education policy. The knowledge base for meritorious teachers must be clearly identified and decisions taken regarding its use. The definition of inservice programs and their establishment and operation must be addressed by the various educational institutions, i.e., institutions of higher education, service centers, state departments, and others.

Current inservice teacher education issues include: (1) What is a significant research agenda for inservice teacher education? (2) What are the sources of influence on the planning and implementation of inservice training? and (3) What should be the federal government's role in the development of inservice policies?

Authors from a variety of role groups address these and other pertinent issues in the area of inservice teacher education.

Inservice Plenary Presentations

POLICY
Hillary Rodham Clinton, Chair
Arkansas Education Standards Committee

RESEARCH
Kenneth R. Howey, Professor/Associate Dean
University of Minnesota

PRACTICE
Beatrice A. Ward, President
Center for Interactive Research and Development

In "Teacher Education: Of the People, By the People, and For the People," Clinton discusses the need, within both public policy and practice, for making teacher education more responsive to the particular needs of individual schools and school districts. She advocates state control of inservice education policies and explores six basic policy assumptions regarding the types of inservice education programs that are needed in public education.

Howey, in "Six Major Functions of Staff Development: A Selective Review of the Literature," moves beyond the staff development of teachers as merely the enhancement of pedagogical skills. He advocates changes in teacher role relationships, more attention to grounded theories, a better understanding of the relationship of teacher cognitive development to instructional practices, and helping teachers to become more aware of changes in themselves and the relationship of these changes to their life's work of teaching.

Local, state, and national policymakers have focused on the need to upgrade the teaching force by attracting more talented individuals into the profession, evaluating teacher skills and knowledge, and using the expertise of the best teachers to upgrade the skills of other teachers. In the last 10 to 15 years, the teaching profession has acquired a well-founded knowledge base on effective teaching, and it is now challenged to use this information to improve teacher development. Ward explores the context in which future teacher development will occur, reviews current practices in teacher development, and identifies desirable features of future teacher training programs in "Teacher Development: The Challenge of the Future."

Inservice Concurrent Presentations

POLICY

Robert Palaich, Senior Policy Analyst
Education Commission of the States

Deane L. Crowell, Assistant Superintendent
Charlotte-Mecklenburg Public Schools

RESEARCH

Robert E. Slavin, Professor
Johns Hopkins University

Joann Jacullo-Noto, Director of Teacher Education
Teachers College, Columbia University

PRACTICE

Richard C. Wallace, Jr., Superintendent
Pittsburgh Public Schools

Robert B. Howsam, Senior Scholar
Research and Development Center for Teacher Education

In "State Actions to Improve the Quality, Attractiveness, and Holding Power of the Teaching Profession: What are the Implications for Teacher Training?" Palaich discusses the involvement of the existing school system in teacher certification requirements. He examines and discusses four discrete types of goals for performance incentive plans.

Crowell describes staff training resources available to Charlotte-Mecklenburg Schools personnel in "Policy Into Practice: Staff Development Resources." These resources include the inservice department, the teaching learning center, the human relations employee assistance program, the curriculum research center, and the Metrolina Educational Consortium.

In "Cooperative Learning: Research and Implementation," Slavin explores cooperative learning in which students encourage and assist their group mates to learn and are rewarded based on the learning that has taken place in the group as a whole. Implications for future research on the implementation and adoption of these programs in the classroom are also discussed.

Jacullo-Noto, in "Interactive Research and Development: A Meeting of Many Minds," describes a two-year interactive research and development (IR&D) study involving three teams of teachers, researchers, and staff developers. She examines the historical antecedents of IR&D, describes the scope and selected outcomes of the project, draws implications for developing staff development agendas in other educational contexts, and suggests measures to be taken by those preparing to engage in an IR&D experience.

In "The Schenley High School Teacher Center," Wallace describes a unique teacher revitalization program that addresses the specific issue of quality in secondary schools. Wallace details how the Schenley Center promotes staff and programs in a staff development effort equaled by few if any other public school districts.

Howsam looks at the reasons that the teaching profession has been slow to develop a valid knowledge base for practice or to establish teacher education as a necessary prerequisite to effective teaching. In "Disquietude," he concludes that control of the teaching profession by state education systems will make it difficult for researchers and educators to replace folkways, conventional wisdom, and personal predispositions with professionally valid practice.

TEACHER EDUCATION: OF THE PEOPLE, BY THE PEOPLE, AND FOR THE PEOPLE

Hillary Rodham Clinton
Education Standards Committee, Arkansas

Teacher education, both preparatory and during service, will continue to be affected by the education renewal movement that is sweeping the country. That movement, largely inspired by forces outside the existing public education system, demands more public participation in and accountability from our public schools. Community involvement in the public schools is a welcome change from the decreasing public support for education that we have seen in recent years and should be applauded by teachers, administrators, and university professors. And, although much of the reform thus far has focused on raising standards for curricular offerings and student achievement as a first step toward reversing lowered expectations about student capacity for learning, the winds of reform are also upsetting the status quo in teacher education.

In Arkansas, we have worked to (1) require greater accountability from all elements within the public education system, (2) focus more attention and targeted assistance on each individual student, and (3) increase the rigor of the courses required and the performance expected of our students. In addition, a committee appointed by Governor Clinton, which will be making its report within the next two months, is addressing changes needed in teacher education, certification, and evaluation. Its chairman, Ann Henry, was present at this conference and served remarkably well in the difficult undertaking of presiding over the diverse interests and points of view represented on the committee addressing those subjects.

We recognize in Arkansas that the effectiveness of the reforms passed by our legislature and adopted by our state board of education will be determined largely by the teachers and administrators already in our schools. One of the keys to insuring that the reforms are implemented is a good inservice education program tied both to the goals of the education system and to the needs of educators.

There are, in my opinion, six basic policy assumptions about the kind of inservice education program we need in public education. First, the content of teacher education, either before or during service, cannot and should not be solely determined by educators. Second, inservice education programs must be related to furthering a state's, school district's, and individual school's educational goals. Third, inservice education programs should address both the needs expressed by educators for further education in particular areas and the deficiencies in functioning revealed by needs assessments participated in by teachers, administrators, outside evaluators, patrons, and, when appropriate, students. Fourth, assessment and evaluation are critical components in any inservice education program. Fifth, the state should require each district to have ongoing inservice programs and should provide financial support to assist districts in designing, conducting, and evaluating them. And sixth, statewide programs for career ladders, master teachers, or merit pay should be tied to functioning and effective inservice programs. I want to discuss these policy assumptions and my reasons for each.

The first assumption concerns the role of persons other than educators in the design and conduct of inservice education programs. I believe strongly in the widest possible support for and participation in the public education system. That belief is founded on my understanding of the dependence of a democratic form of government (especially in a pluralistic society) on its public schools and my common-sense political experience that the surest way to ensure broad community support for a policy is to work toward broad-based community involvement. For example, when we began our effort in Arkansas to reach a consensus on quality education standards, we worked very hard and spent an enormous amount of time to involve as many people as possible. We held a public hearing in every one of the 75 counties, invited representatives of education organizations and experts to our meetings, and used the media extensively to create a two-way channel of communication about education issues. People came forward with all sorts of ideas, some meritorious, others not, but all expressing real concerns. When we sifted through the recommendations to arrive at our own conclusions, we had the benefit of many ideas and the confidence that our views did not arise in a vacuum.

The model is not so different for involving noneducators with inservice education. The new Arkansas Education Standards for Accrediting Public Schools require each district and school to set educational goals and adopt strategies for achieving those goals, using processes that require public involvement. One of the strategies for achieving goals should be a program of continuing inservice education, and another strategy should be evaluation of the effectiveness of inservice education. The public should be involved through committees in formulating both the program and the evaluation measures.

The public should also be involved in ongoing efforts to assess the needs of local school districts. I reject the view held by some within our schools that persons on the outside neither know nor care about the problems faced every day in the classroom. In fact, I believe that often an outside perspective can be useful in identifying needs which may not even be perceived by teachers and administrators.

Once needs are identified, noneducators may also be very useful in conducting programs that address those needs. There are, for example, communications experts who could assist educators in improving their abilities to communicate effectively. Private businesses use such assistance all the time in their continuing education--why not schools? Social workers and child psychologists could provide valuable information about children's problems and development. Management and motivation seminars used by businesses could also assist administrators in learning more effective means of management and personnel motivation than are usually practiced within our schools. These are just three ways that noneducators could assist in the design and delivery of inservice education to educators. A policy that assumes the legitimacy of such involvement and requires educators to seek outside assistance would result in more effective and better supported inservice programs.

The second policy assumption, that inservice education programs should further state, school district, and individual school educational goals, may seem obvious and not worth mentioning. However, I have often observed that programs labeled "inservice education" do little to address district or school problems or to further their educational objectives. A well-designed inservice education program should be part of a strategy adopted to meet particular educational goals. Although the goals of school districts and of individual schools within a district may differ depending upon the instructional leadership available, the student population, and other characteristics, it is essential that inservice education be tied to meeting each one's goals, whatever they might be.

For example, a state might adopt a goal that all its students will meet certain levels of achievement on standardized tests by a specified date. If that is the goal, then inservice education ought to address the various ways educators can assist students to improve their performance toward meeting that goal. A school district with a high population of disadvantaged students might have a goal of enabling a certain percentage of all its students to read at their grade level. Certainly, that district's inservice education program should focus on training teachers to help slower students improve their reading and on assisting administrators in providing instructional leadership that will support teachers in their efforts. A school with an affluent population might have a goal of providing a more challenging curriculum for its students, and its inservice education program would focus on curriculum innovation. In other words, inservice education must be married to educational goals or it risks being irrelevant both to the individual educator and to the setting in which it occurs.

Third, I assume that inservice education programs should address both the needs that educators themselves express and their needs as perceived by others. The question about who should define needs is a variation of the old "chicken and egg" problem. We often do not know what we do not know, and so have difficulty articulating what our needs might be. I am confident that educators understand many of their needs and can design programs that address those needs, but I also believe that certain deficiencies or problems within a district may not be well perceived by educators themselves and may best be articulated by persons other than teachers. For example, teachers may well perceive that they need training in techniques of classroom management or discipline, but they may not perceive that enhanced collegiality within the teaching corps and improved lines of communication between teachers and administrators would assist them in enforcing school discipline policies. Teachers may also recognize that they need alternative methods of reading instruction but may not perceive that more effective communication between school personnel and parents would resolve some of the problems associated with poor reading achievement. An inservice education program that provides a comprehensive approach to school needs must be designed with the input of both those who will participate in the program and those who will benefit from it.

My fourth policy assumption concerns the critical importance of assessment and evaluation in all aspects of public education, including inservice education programs. Assessment and evaluation measures are necessary in designing a continuing education program. An assessment and evaluation process must have the confidence of those who support the public education system. Arkansas was the first state to require that administrators and teachers be tested on their basic skills as a means for determining who needs assistance to remedy deficiencies in those skills. We consider the test to be part of an ongoing process for assessing our educators' needs and for designing inservice programs to address them. Under the law, all teachers and administrators will be tested in the spring of 1985, except for those who have obtained certification in the last four years by having successfully passed the National Teachers Examination.

The Arkansas test is being developed by a committee of teachers and administrators in cooperation with a nationally recognized testing and research firm. Teachers or administrators who do not pass the basic skills test in the spring of 1985 will have two years to upgrade their skills. They must pass the test by June 1, 1987, the date on which the new Arkansas Education Standards for Accrediting Public Schools will come into effect. Teachers who do not pass the basic skills test by this date will not be certified to teach in the Arkansas public schools. In addition to the basic skills test, the state is requiring educators either to pass a test in their principal subject area of certification or to return to an institution of higher education to take additional course credits and complete them successfully.

Why did we adopt the test? The need for assessment of basic teaching skills became apparent through public involvement in our process to reach consensus about what Arkansas needed to improve education. Therefore, the Arkansas governor and legislature decided to establish state assessment of basic skills and to set a benchmark for measuring them. The reasons for requiring the test were political and substantive.

Politically, the public is justified in requiring more accountability in return for greater investment in education, and that accountability requires assessment and evaluation which the public can understand. The people, through their legislators, voted to raise the sales tax for the first time in 26 years and to devote every penny of that raise to education. Seventy percent of the money appropriated for public schools is to be spent on increasing inadequate teacher salaries. In return for their investment, the taxpayers demanded assurances that teacher competency will be improved. The test offers part of that assurance, and will increase public support for teachers.

Substantively, the state cannot require inservice education programs in each district unless it has a statewide needs assessment of teachers' basic skills. Without such a benchmark, the state cannot design or fund a program furthering its goal of improving educational performance. If our educators have deficiencies in basic skills, as the public widely believes, that problem must be addressed before other needs can be met; if the public's belief is not well founded, it has to be refuted so that the state can move on to address other pressing problems.

The test will not determine who is a good teacher but will identify those who need improved basic skills in order to function more effectively in the classroom. University and college as well as inservice programs are now helping to prepare educators for the test and will provide remedial assistance to any who fail. The state is currently considering other assessment and evaluation processes that will be used after the test to help educators improve communications, discipline, management, and substantive skills.

The fifth policy assumption is that the state should require continuing inservice education. The Arkansas Education Standards for Accrediting Public Schools contain the following standard on staff development and inservice training:

> 1. Each school district shall develop and implement a plan for professional staff development and inservice training based on local educational needs and state educational goals. The plan shall be subject to review by the state department of education. The plan shall provide education and training for school board members, school and district administrators, teachers and support staff on a continuing and regular basis throughout the school year. Teachers shall be involved in the development of the plan for their own inservice education. All programs for staff development and inservice training shall be evaluated by the participants in each program.
>
> 2. Each school district shall have flexibility in establishing plans for staff development and inservice training, provided the plans meet standards for inservice education as developed by the state department of education.

The Arkansas Education Standards Committee and the State Board of Education believe that staff development for teachers and other school personnel is essential in developing effective schools. Teachers need continuing access to new techniques and knowledge in order to do a better job in the classroom. Administrators should continue to improve their skills in management and information sharing. As instructional leaders, they must also understand the functions and content of instruction. Both teachers and administrators should know how to involve parents and the community to maintain their support for public schools. School board members should be required to take inservice training in developing policy. Support staff and other school personnel must also have inservice education programs appropriate to their responsibilities. Each local school district is responsible under the Arkansas standards to provide appropriate ongoing education. The state does not mandate the program or subject area because inservice education should be tailored to district or school needs and goals.

I strongly support state leadership in inservice education, but I do not believe the federal government should establish inservice policies. In certain programs traditionally supported by federal funds, such as Chapter One funding for disadvantaged students, inservice training in the goals and objectives of the program may well be part of the federal government's requirements for granting funds. But otherwise, I think the state should set the ground rules for inservice education and the local district should be responsible for designing and implementing appropriate programs.

The sixth policy assumption concerns the relationship between inservice education programs and proposals for career ladders, master teachers, or merit pay for teachers. I do not believe we can have effective career ladders or fair and acceptable criteria for designating master teachers and allocating merit pay without inservice education that meets the requirements for these programs and satisfies the expectations of evaluators and peers. It is also essential that persons responsible for implementing such programs be required to obtain the necessary inservice education enabling them to evaluate their programs.

If these policy assumptions govern the design and implementation of inservice education, I am confident that both educators and the public will be pleased to make the investment of time and money necessary to do a first-rate job of educating students.

SIX MAJOR FUNCTIONS OF STAFF DEVELOPMENT: A SELECTIVE REVIEW OF THE LITERATURE

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Staff development today is largely limited to the enhancement of pedagogical skills (see for example Weil, 1984). However important pedagogical training may be to the daily instructional tasks of teachers and to student achievement, staff development limited to such training is unnecessarily narrow and limits both teacher and pupil growth. While staff development often includes a potpourri of other activities, these activities tend to be brief, atheoretical, and lacking in personal relationship to the life of teachers and their classrooms (Gall, Haisley, Baker & Perez, 1984; Joyce, Howey & Yarger, 1976).

Many terms have been used to describe the continuing education of teachers. One of them, staff development, commonly connotes job-related activities supported by the school or district. Impetus for the growing use of this term can be traced to the recent emphasis on school improvement and attention to characteristics of effective schools such as goals agreed upon by the faculty, shared expectations about pupil performance and social behavior, enhanced collegiality and a sense of community, and schoolwide articulation of the curriculum. These characteristics emphasize staff development rather than, or in addition to, individual development. This literature pays commendable attention to all-school factors and how these relate to individual classrooms (Cohen, 1981; Purkey & Smith, 1982; Ralph & Fennessey, 1983). It suggests that collective faculty or staff efforts can result in improved curricula, a more humane school climate, and more challenging instructional norms. It has further demonstrated that there are basic differences in student achievement in what outwardly appear to be similar school situations.

Studies of teaching have also addressed deep and widespread concerns about teacher accountability. The teacher effectiveness literature has sparked a long overdue trend in this country to design and plan staff development tailored to specific school curricula and instructional behavior. For example, Good and

Grouws (1979) have designed a training program using instructional practices related to higher-than-expected elementary student achievement gains in mathematics. The training program has been studied experimentally to assess its success in bringing about desired instructional behavior and improved pupil achievement scores.

Those concerned with the education of teachers, whether in initial or continuing education, are indebted to such scholars as Stallings and Stayrook (1978); Brophy and Evertson (1974); McDonald (1976); and Good, Grouws and Ebmeier (1983). These scholars have been able to translate findings about chains of inquiry in classrooms into training materials that can help teachers bring about desired forms of student cognitive achievement.

The work of Showers shows how staff development can be carried into the classroom itself. Showers' (1984) recent study of the effects of peer coaching on the transfer of training indicates how effective follow-up can be incorporated into staff development designs. In her recent review of research on staff development, Sparks (1983) also reviews how staff development can be tied more directly to classroom practice through peer observation and feedback.

Several other instructional programs have become the primary staff development agenda for many teachers. These reflect varying degrees of empirical support and address such diverse topics as mastery learning, cooperative learning, active teaching, and time on task. The most widely adopted staff development program of this type appears to be Madeline Hunters' Instructional Theory Into Practice (ITIP). The intent of programs of the Hunter type is to alter teacher behavior with the intent of improving pupil performance.

Not all programs are successful; often they remain loosely coupled. Means and ends become disassociated from each other, and actions by staff developers remain only loosely connected to what teachers do in their classrooms. In a recent study of staff development activities in Oregon, Gall, Haisley, Baker, and Perez (1984) concluded the following:

> Our hunch is that inservice education, however it is originally conceived, becomes bent to the prevailing patterns of school system functioning. Inservice education appears largely designed to be unintrusive and undemanding of teachers. It reinforces prevailing curriculum and instruction, and is not intended to alter them in a fundamental way. The focus of inservice instruction on the instructional process rather than instructional outcomes is a major indicator that it is not intended to challenge the prevailing system. Another indicator of lack of challenge is the fact that teachers feel adequately prepared in the majority of inservice activities even before they begin participation. (p. 8)

Thus, while major improvements have been made in certain areas of pedagogical teacher development, much work remains to be done.

This brief review could easily be consumed with a summary of recent research on teacher and school effects and the relationship of these to staff development. Fortunately, these studies have been fairly well chronicled, although the adaptation of their findings to practice has not. Two publications, the March 1983 special edition of the Elementary School Journal and a volume published jointly by the AACTE and the ERIC Clearinghouse in Teacher Education (Smith, 1983) provide excellent reviews of studies on such key pedagogical functions as teacher diagnosis and evaluation, instructional decision making and planning, classroom organization and management, and the effects of differential teacher expectations on pupils. Other important pedagogical research not covered in these two volumes is being translated into staff development materials, including Doyle's (1983) seminal review on academic work, advances in schema theory and cognitive processing (Anderson & Pearson, 1984), recent developments in advancing study skills (Anderson & Armbruster, 1984), and recent studies on the effective use of presentational skills (Land & Smith, 1983).

I readily acknowledge the obvious importance and centrality of improved classroom practice, support improved pedagogy as the ultimate priority for staff development, and commend the literature noted above to readers unfamiliar with it. Yet, as stated earlier, the almost exclusive preoccupation with largely technical teaching skills in what are viewed as programs of staff development raises major concerns for me. Thus, I have reviewed this literature to argue that additional, related, and essential goals can also be achieved through staff development.

A Broad Perspective Of Staff Development

Staff development is broadly defined in this paper as activities pursued by teachers either individually or alone to enhance their capacity as professionals after they have obtained licensure and begun professional practice. Distinctions, of course, could be made here between such terms as staff development, inservice education, and professional development. The literature contains several treatises that attempt to define the terms used to describe aspects of continuing teacher education and to assign responsibility for the governance and support of various activities (Edelfelt & Johnson, 1975; Howsam, Corrigan, Denemark, & Nash, 1975; Joyce, Howey, & Yarger, 1976; Schlechty & Whitford, 1983).

A broad definition is purposefully used here in the belief that employers of teachers as well as teachers themselves have responsibility to attend to and support the various purposes of staff development outlined below. To assign primary responsibility for the planning and support of staff development in classroom practices to employers and responsibility for other forms of renewal to teachers is a simplistic and unfortunate notion with which I disagree.

Based on a review of the literature, staff development has six purposes: (1) continuing pedagogical development, (2) continuing understanding and discovery of self, (3) continuing cognitive development, (4) continuing theoretical development, (5) continuing professional development, and (6) continuing career development.

Pedagogical Development

Pedagogical development activities focus on teaching in specific curriculum areas, on generic instructional tactics such as those concerned with classroom management or presentational skills, and on broad organizational functioning that involves groups of diverse teachers. This purpose has been elaborated elsewhere, as already noted, and will not be further described in this paper.

Understanding and Discovery of Self

Teachers should be as expert as possible in understanding human development. Yet adult development receives minimal attention in programs of staff development and is rarely used as a means of better self-understanding. More attention should be given to self-understanding because of the highly interpersonal nature of teaching, the tendency to view teachers instrumentally rather than personally, and the problems inherent in interacting with youngsters of the same age year after year while teachers grow older.

Teaching is largely an interpersonal activity. The degree of understanding teachers have of their own behavior and how they have changed over time is directly related to the nature and quality of interactions they have had with others, certainly including the myriad daily interactions in schools. The body of knowledge on adults can contribute substantially to an understanding of oneself and one's relationship to others.

There is a considerable, ever-growing body of knowledge about adults and how they change over time. This literature includes general stage theories of development; genotypic, age-linked conceptions of growth and change; and several literatures on pervasive and continuing adult concerns and how these might be addressed (Willie & Howey, 1980).

Teachers are commonly viewed as conduits of learning; their learning is primarily concerned with promoting learning in others. Learning with a more personal focus tends to be devalued in staff development activities, resulting in an impersonal conception of teaching and learning. A periodic emphasis on a better understanding of self through the study of others is needed to offset this prevailing orientation.

Over time, teachers experience a growing physiological contrast between themselves and their students both in visible changes (e.g., graying hair) and more private changes (e.g., hormonal alterations). The literature on physiological change is considerable, and coping with these changes is a pervasive concern for adults. Teaching may very well exaggerate and thus exacerbate problems associated with aging. A better understanding of the universality of these changes and how to accommodate them would be especially helpful to many teachers.

Cognitive Development

Cognitive/developmental theorists now provide us with several frameworks for studying how individuals behave. Stage theorists such as Piaget (1972), Kohlberg (1976), Loevinger (1976), and Hunt (1976) argue that human development, personality, and character are the results of changes in underlying cognitive and emotional structures. Each stage provides a qualitatively different frame of reference through which a person interprets and acts upon the world. These sequences of development invariably progress from simple modes of thinking and behavior to more complex and differentiated modes.

Adults, including teachers, differ in their developmental status in terms of these various developmental constructs. For example, increasing data suggest that a large portion of adults have not completed the transition to formal operational thought characterized by propositional thinking (Tomlinson-Keasy, 1972; Neimark, 1975). As a consequence, major differences exist in the capacity of adults to imagine alternative combinations of variables, to formulate hypotheses, and to systematically test these hypotheses. Recent research (Riegel, 1973; Kitchener, 1977) suggests a stage beyond Piaget's formal operations, tentatively labeled reflective judgment.

Research also demonstrates that differences in cognitive and interpersonal development affect the way teachers learn in staff development activities and interact with students in their classrooms. Hunt and Joyce (1967), for example, have found that teachers with high conceptual levels are more reflective in their teaching styles and more helpful to students in evaluating information and generating hypotheses than teachers with low conceptual levels. High-conceptual teachers are also seen as more stress tolerant (Suedfeld, 1974), better able to look at a problem from multiple viewpoints (Wolfe, 1963), able to create more diverse learning settings for their students (Hunt & Joyce, 1967), and effective in using discovery types of learning (McLachlan & Hunt, 1973). Salyachvin (1972) has reported that when two different kinds of information are presented, low-conceptual persons are most affected by the information. Less mature, less complex teachers process experience differently and may not do well in certain inservice activities (Howey, Bents, & Corrigan, 1981).

Staff development interventions are beginning to be tested and designed to promote cognitive development in teachers (Glassberg, 1977; Oja, 1983; Sprinthall & Thies-Sprinthall, 1983). These staff development schemes are evolving from prior studies of the use of differentiated curricula with children and adolescents having different stage characteristics. In studies concluded to date, the experimental groups have consistently demonstrated positive gains on developmental indices, but control or quasicontrol groups have remained essentially unchanged (Hedin, 1979; Sprinthall & Sprinthall, 1980; Widick, Knefelkamp & Parker, 1975). Staff development designs should take into account developmental differences and should promote complex functioning and interpersonal sensitivity when possible and appropriate.

Theoretical Development

Greenwood, Good, and Siegel (1971) share my conception of the relationship of theory to teaching:

> Our bias is to refer to the system of generalizations that actually governs the teacher's behavior as his theory. It is our belief that if teachers clarify and systematize their beliefs they will become more adept in interpreting classroom behavior and more capable of devising strategies. (p. 2)

In a similar vein, Bussis, Chittendon, and Amarel (1976) refer to construct systems comprised of perceptions, attitudes, values, and understandings that underlie action. They illustrate how personal constructs change as an individual's perceptions change over time, and they suggest that these perceptions can be examined and altered through staff development strategies. Yet, theory development or theory testing as a goal of staff development is exceedingly rare. In one of the few references to theory in the staff development literature, Fenstermacher and Berliner (1983) suggest that proposed programs of staff development should be justified in terms of their contribution to the attainment of goals set forth in a selected educational theory.

Most teachers do not teach in terms of a system of explicit, examined generalizations. Studies such as that by Duffy and Methany (1979) suggest that only a small percentage of teachers demonstrate consistent beliefs (in this situation, beliefs about reading instruction) and put these beliefs into practice. Studies of teacher planning for instruction indicate that they select activities largely to keep students engaged, not to test beliefs or examine options. Griffin, Lieberman, and Jacullo-Noto (1983), in what they call a cautious review of diverse studies of planning, write:

> However, if one ignores the sharp differences in researchers' methods and intentions (always a risky undertaking), a picture emerges of teachers beginning the school year concentrating planning activities on students but spending the most energy on decisions about classroom activity. Even decisions about classroom activity are made from a relatively narrow range of options. When the teacher does consider students in planning and proactive decision making, the information used is associated more with observed achievement than actual ability. This condition is more than likely a consequence of the lack of a systematic and reasoned strategy for gathering information on decision making. Once initial planning decisions are made, our profile teacher seldom deviates from the mental script that emerged from the planning. (p.20)

There have been a few efforts rooted in perceptual psychology to assist teachers in developing and analyzing the constructs or theories that guide their behavior (Bussis et al., 1976; Holly, 1977, 1979). Such efforts call for far more than sharing an idea or providing occasional feedback to a teacher (Bussis et al., 1976):

> Simply having a new idea or feeling...is relatively inconsequential for effective change. Translating an idea into action and experiencing its consequences counts for much more and constitutes the basis for personal knowledge and learning. This points up the obvious importance of experience in shaping personal constructs. If significant change is to occur, it requires a quality of experience that supports personal exploration, experimentation, and reflection. (p. 17)

Thus, theories related to the core functions of teaching do exist, but to be meaningful and useful, they must be grounded in practice through cycles of action and reflection. The intended result is more rational instructional behavior.

Theory development and analysis are rarely purposes of staff development. The emphasis is much more on the "how" of pedagogy than the "when," "why," or "what if." Teacher planning provides a largely pragmatic, eclectic approach to instruction with minimal consideration of alternatives over time. The nonreflective, nonexploratory posture of teachers can contribute to questionable practice and certainly does contribute to the prevalent pedestrian image of teachers.

Professional Development

Professionals are characterized by the ability to make informed judgments and perform important tasks in complex environments--judgments and performance rooted in an advanced and specialized knowledge base. A knowledge base is essential to professional status; it determines both the scope and nature of professional preparation and the competence to perform professional functions. Certainly not all members of a profession contribute directly to the professional knowledge base. Generally, certain members of the profession engage in research and development to expand and refine knowledge, and there is no major difference in status between the producers and consumers of research and development within the profession.

Not so in the teaching "profession." Teachers rarely engage in research and development that contributes to their knowledge base. In addition, there is a major difference between the status and working conditions of knowledge producers and teachers. Thus, to advance the status of teachers and to enhance the knowledge base that guides their work, greater numbers of teachers must become involved in knowledge production activities. This long-range agenda should begin now. While professional development embraces far more than the acquisition of research skills, the research function should become increasingly important in the continuing professional development of teachers.

Recent studies identifying patterns of effective teaching and aspects of effective schooling have had some deleterious side effects. The timeliness and apparent utility of these studies combined with an apparent ignorance of their limitations have further reinforced the mistaken notions many teachers, principals, and policymakers attach to research. Research findings valid for teaching specific subjects with certain types of goals to certain types of learners have been erroneously interpreted as general prescriptions for effective teaching in other contexts. There is a need not only for more and better research but also for better producers and consumers of that research. Doubtless a better understanding of research can be achieved by involving teachers in the research process.

Research goes beyond the rational, reflective posture needed to develop educational theory. It requires the acquisition of special skills. While not all teachers can or should become involved in systematic inquiry, selected teachers can reasonably assume a greater role in research and development, especially collaborative research. Systematic study with others can also be a form of professional development. There have been a few instances of teacher involvement in collaborative research and development, including Tikunoff, Ward, and Griffin (1979), Hering and Howey (1982), Griffin, Lieberman, and Jacullo-Noto (1983), and Oja (1983). In summarizing 14 studies of collaborative research, Hering and Howey conclude that:

> a) Teachers can contribute in meaningful and multiple ways in the conduct of formal research with but minimal research training.
>
> b) Both teachers and researchers report growth experiences from their involvement in collaborative research, especially when the conditions enumerated earlier are present.
>
> c) While collaborative experiences can also be intended for the growth of those who participate (especially teachers), there is nonetheless an obligation to generate knowledge that meets the canons of empirical inquiry and to involve teachers in enriching such investigations. (1982, p. 71)

Career Development

The careers of many teachers can be enhanced in two fundamental ways. Both of these can also contribute to improved instruction for youngsters. The first is the creation of differentiated, realistic, and complementary roles for elementary teachers. The second is the development of more viable hierarchical leadership roles for teachers, leadership roles that allow them to maintain some instructional responsibilities.

One of the fundamental problems in schooling today is the conception of teaching roles and the way in which teachers are organized, especially in the critical first years of schooling. As I have stated elsewhere,

> In this country our most common "professional" pursuit--teaching in elementary schools--can be accurately characterized in terms of a role that is already considerably overextended, largely devoid of specialized expertise, non-collaborative, labor-intensive, technologically bereft, and largely without access to adequate structures and procedures for career growth and professional development over time. Nonetheless, we continue to

> "mass produce" one largely generic teaching model to work basically independently with our youngsters in the first six or seven critical years of schooling. (Howey, 1983, p. 2)

The general consensus is that the future will place even greater demands upon schools and teachers. One response is to move toward more differentiated and collaborative teacher roles, for elementary teachers especially. This change has obvious implications for the initial and continuing preparation of teachers. Staff development activities should address role variations for elementary teachers related to subject areas such as mathematics and to cross-subject goals such as social-emotional development. Obviously, more collaborative approaches such as peer coaching (Showers, 1984) and collegial feedback (Roper, Deal, & Dornbusch, 1976) will allow staff development to be better embedded in the ongoing lives of teachers.

As part of the growing trend toward ladders and the placement of senior teachers in leadership roles, staff development programs will offer specialized training in leadership skills. Several frameworks for such training have been developed. Training should include inquiry into what is known about how teachers learn and develop; inquiry into how schools and classrooms affect the learning and development of teachers; and inquiry into what is known about the organization, management, and delivery of inservice teacher education (Howey, Bents, & Corrigan, 1981).

The literature on staff development reveals its numerous forms and purposes. Many strategies such as child-study approaches, organizational problem solving, and computer networking are underutilized. While the knowledge base about staff development is still fragmented and emerging, adequate knowledge now exists to design programs of staff development that can prepare more and better teacher leaders.

In conclusion, normative staff development practices contribute to pedestrian conceptions of teachers and teaching. As paradoxical as it may seem, the present preoccupation with pedagogy is not as likely to result in improved instruction as would changes in teacher role relationships, more attention to grounded theories, a better understanding of the relationship of teacher cognitive development to instructional practices, and helping teachers become more aware of changes in themselves and the relationship of these changes to their life's work of teaching. Staff development policy and practice should be expanded to include multiple, interrelated purposes in a coherent design for the development of teachers.

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TEACHER DEVELOPMENT: THE CHALLENGE OF THE FUTURE

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Center for Interactive Research and Development

The skills and knowledge of experienced teachers--those who have completed the initial probation period and have entered the teaching profession--have long been a matter of interest and concern to local, state, and national policymakers. Periodically, the dialogue about experienced teachers has focused on the need to upgrade the teaching force by (1) attracting more talented individuals into the profession, (2) using various forms of evaluation to assure that teachers possess a specified set of skills and knowledge, and (3) capitalizing on the expertise of the "best" teachers to upgrade the skills of other teachers.

As early as 1958, two of these challenges were raised by a national panel headed by John W. Gardner and Rockefeller Brothers Fund. The panel derided local and state policies and practices that allowed the best and the poorest teachers in a school to be assigned the same responsibilities and paid the same salary. The panel also noted that the average level of pay for teachers was so far below the middle echelon of executives in other fields that the teaching profession could not expect to be able to attract a full share of individuals at the upper range of talents. These same concerns were repeated in 1983 in the reports of the National Commission on Excellence in Education and other agencies such as the Twentieth Century Fund and the Education Commission of the States. The 1983 reports also included a recommendation that teacher development could serve as a vehicle for building opportunities for advancement in the teaching profession and for increasing the likelihood that educational research and development would contribute to improvement of our schools.

Fortunately, in the last 10 to 15 years we have acquired a well-founded knowledge base that can inform our response to this challenge. Today, we can point with confidence to characteristics and actions that differentiate between instructional settings in which students successfully master the learning goals set out for them and those in which students are less successful. We know what effective teachers do and how effective instruction is accomplished in effective schools. We also know a great deal about a variety of approaches to teacher development. From the late 1940s to date, these have included action research involving teachers in redesign and testing of curriculum (1940s and 1950s), "teacher proof" instructional programs (1960s), competency-based teacher education (1960s and early 1970s), and clinical supervision (1970s and early 1980s). During the past decade, we have been able to determine what teacher development strategies appear to be more successful than others in producing desired changes in experienced teachers' conceptualization and conduct of effective instruction.

Hence, compared with our knowledge base in 1958, our knowledge base today places us in a strong position to respond to recommendations to upgrade and improve the nation's teaching force. The challenge is to implement this information, particularly with regard to improving the expertise of experienced teachers. The purpose of this paper is to explore the challenge of teacher development from the perspective of what we have learned from current practice in teacher development. Based on this information, what remains to be done if future teacher development efforts are to meet the exigencies and expectations imposed by the contexts in which they will be carried out? How can we incorporate the features of successful teacher improvement efforts into teacher development programs? The paper is divided into three sections: an exploration of the contexts in which future teacher development will occur, a review of current practices in teacher development, and an identification of current teacher development efforts, with recommendations for introducing them into future practices.

The Contexts of Teacher Development

Teaching occurs in classrooms that are parts of larger contexts like schools, school districts, and state educational systems. Thus, it is not surprising that recent discussions of experienced teacher development underscore the importance and the complexity of the contexts within which such development is to occur. Schlechty, Crowell, Whitford, and Joslin (1984) noted that

> it is impossible, or nearly so, to describe, analyze, or understand any form of staff development activity outside of the organizational and social context in which these activities are embedded. Indeed, it is the context within which a program or activity operates that gives meaning and significance to the activity. (p. 5)

Fenstermacher and Berliner (1983) have described the complexity of this context: "Modern teachers function in a complex environment of policy, law, regulation, special programs, organizational structures, communication systems, and professional associations" (p. 2).

As educators move ahead with meeting the challenge to improve and upgrade the quality of the experienced teacher work force in our schools, at least four contexts affecting teacher improvement warrant special attention. These are (1) actions and policies of state legislatures and state boards of education, (2) the nature of the teacher work force, (3) the characteristics of the schools in which teachers teach, and (4) the administrators with whom they work.

Context 1: State Legislative and State School Board Policies and Actions

Perhaps in response to the recent report by the National Commission on Excellence in Education and other national task forces, but also in response to local pressures to improve education, state legislatures and state school boards throughout the nation have enacted or considered new legislation and policies that impact teacher development programs (for a review of recent task force proposals, see Ward, 1983).

The largest number of states have responded to a concern that the best and the worst teachers in a school not be assigned the same responsibilities and paid on the same salary scale. As of mid-1984, career ladder and/or mentor or master teacher programs have been approved in 8 states and are under consideration in 16 others (Walsh, 1984). Although less predominant than the career ladder approach, a form of merit pay is included in some of the master teacher programs, and merit pay based on quality alone, with no modification in teacher responsibility, has been passed by three state legislatures.

In addition, new forms of teacher evaluation have been initiated in 12 states and in the District of Columbia. Six additional states presently are considering adoption of evaluation requirements for both entering and experienced teachers.

Five states have passed new legislation requiring experienced teachers to complete various amounts of continuing education in order to renew their teacher credentials at predetermined time intervals (most often, five years). One state has passed legislation requiring review of a teacher's expertise, coupled with additional training if weaknesses are found, in order to renew a credential. Five states have adopted special training programs for experienced science and mathematics teachers. New inservice teacher education programs have been funded in 8 additional states.

Three states have approved and one is considering action that allows a person with a B.A. degree to be employed as a regular classroom teacher prior to completion of courses in education and teacher training. In two of these states, persons who enter with no teacher training must undergo an internship period in which a mentor or master teacher supervises their work. All three states require persons who enter teaching with no teacher education to complete such training during their initial two to five years as a teacher.

These recent state-level actions appear to assume that the expertise of more effective experienced teachers can be used to further the development of less experienced teachers, and that once mentor/master teachers are identified and training and evaluation programs for experienced teachers are operable, students' learning will also improve. In fact, some states such as Florida are basing the receipt of bonus salary payments on the extent to which students' performance improves, not only in the individual classroom but also in the school.

Thus, based on current state-level actions, we can anticipate that teacher development will occur in an atmosphere of anticipation and accountability. It will be an important and urgent matter. It will be visible. It will be conducted under the expectation that educators can and will design and implement development/training/evaluation that improves the performance of experienced teachers, based on measurable improvement in students' learning within a relatively short period of time. And based on current funding levels, development of experienced teachers will be expected to be carried out with limited resources. Identification of the "better" teachers in our schools and use of their skills and knowledge to assist in the improvement of less skilled teachers will be required in many efforts. In sum, the state-level context will be demanding and will leave little room for failure.

Context 2: The Teacher Work Force

Feistritzer (1983) described the typical teacher of today as:

> a woman still in her thirties who had taught for 12 years, mostly in her present district. Over those dozen years, she would have returned to her local college and university often enough to acquire enough credits for a master's degree. She would be married and a mother of two children. She would be white and not politically active. Her formal political affiliation, if she had one, would be with the Democratic Party. She would teach in a suburban elementary school

> staffed largely by women, although in all likelihood, the school principal would be male. She would have 23 pupils in her class. Counting her after-hours' responsibilities, she would put in a work week slightly longer than that of the average blue-collar worker in industry, but bring home a pay check slightly lower. (pp. 24-26)

Focusing on teachers in a large urban district, Ward and Tikunoff (1984) found that 36% of the teachers in the sample had taught 20 years or more, and an additional 44% had taught from 10 to 20 years. Twenty-eight percent were from minority groups, and 60% were female.

These data suggest that, regardless of the type of district in which teacher development occurs, the population of teachers to be trained will be diverse. On the one hand, many teachers with considerable classroom experience will be included. On the other, retirement of teachers with 20 or more years experience will result in large numbers of people who are new to teaching. Of particular concern is that the newly employed individuals participating in teacher development activities may be less academically qualified than the more experienced participants.

When Schlechty and Vance (1981) initially contended that the nature of the teacher work force in the U.S. is changing, many people questioned the reasonableness of their assertion. Some three years later, we appear to agree that individuals who are entering and staying in the teacher work force are less talented than we might wish. Levine (1984) has suggested that the Great Depression brought into classrooms highly trained professionals who were seeking secure employment. In addition, for many years educated and talented women became teachers because they had few other options. However, through retirement and the women's movement, this talented pool of teachers has been eroded. Darling-Hammond (1984) has made similar comments and, in addition, has noted that many younger experienced teachers are leaving to enter other occupations. Vance and Schlechty (1982) concur with this latter finding. Based on studies conducted in North Carolina, they estimated that first year teachers leave at an annual rate of 15%, second-year teachers at approximately the same rate, and third-year teachers at a rate of approximately 10%. Further, they find that only 26% of the new teachers in the upper 20% of measured verbal ability intended to teach at age 30; contrasted with 56% of those with the lowest verbal ability.

Feistritzer (1983) has further supported the notion that individuals entering teacher training are less talented than other high school graduates who plan to attend college. For example, she notes that 1982 high school graduates who aspired to be teachers had Scholastic Aptitude Test (SAT) verbal scores 32 points below the national average and mathematics scores 48 points below the national average. It is important to note, however, that 1984 SAT data suggest some changes in this pattern. Scores for students planning to major in education rose from 349 in 1983 to 398 in 1984 in the verbal section (1984 national average was 426), reducing the difference between the national average for all students who took the SAT and students entering education to 28 points in 1984. In mathematics, the scores of students planning to enter education rose from 418 in 1983 to 425 in 1984 (national average was 471), reducing the discrepancy between the national average for all students and students entering teaching to 46 points. Although small, this change was considered significant by the College Board (Fiske, 1984).

However, increases in the measured ability of individuals entering teacher training may not be as important as they seem. Schlechty and Vance (1983) have reported that the more able students entering teacher training are least likely to complete this training, or to enter the teacher work force if the training is completed. Data on the hiring of teachers also indicate that the more academically talented teacher training graduates may not necessarily receive preference for placement in the teaching positions in our schools (see Weaver, 1979; Perry, 1981).

A factor that may increase anxieties about the academic abilities of persons entering teacher training is the shortage of teachers that appears to lie ahead. Feistritzer (1984) has noted that in the near future the number of persons entering the profession from teacher preparation programs will be too few to fill the demand. Ward and Tikunoff (1984) have reported data suggesting that teacher shortages already exist. The urban district they studied began the 1983-84 school year with some 800 unfilled teaching positions. Regular classroom teachers reported that during the year, they used their professional development periods an average of 3.7 times per month to substitute for absent teachers or to teach a class for which no permanent teacher had been hired. They received children from an absent teacher's class or from a class for which no permanent teacher had been hired an average of 2.5 times per month. Under these conditions, the quality of individuals entering preservice teacher training and newly hired as teachers becomes a critical issue.

In the decade ahead, we can anticipate the need to provide teacher development to a work force with a wide range of personal experiences and capabilities. A fairly large portion of the future teacher work force will be comprised of individuals with many years' experience, some of whom may be more academically talented than their younger counterparts. The other large group will be new members who, as Rauth (1981) has stated, "[will] still need to fill in gaps in subject matter, liberal arts areas, instruction and classroom management skills, technological advancements, and research application" (p. 14).

Both more and less experienced teachers may differ in ways that affect future teacher development. Sprinthall and Thies-Sprinthall (1983) have discussed the importance of a teacher's cognitive-development stage. They present a summary of work in the cognitive, value/moral, ego/self, conceptual, and epistemological/ethical domains. Combining studies that have investigated adult cognitive development from several of these perspectives, they conclude that "persons judged at higher stages of development function more complexly, possess a wider repertoire of behavioral skills, perceive problems more broadly, and can respond more accurately and emphatically to the needs of others" (p. 21). Persons operating at a more complex level would appear to require teacher development strategies that differ markedly from those designed for persons operating at a lower cognitive level.

Tikunoff and Ward (1981) have described three ways in which teachers think about what they do--three constructs they use to analyze and describe the ways in which they plan, organize, and deliver instruction. They report that a small proportion of the experienced teachers they interviewed and observed can be described as causal modelers--teachers who think about how instruction will effect what students do. These teachers can think ahead to potential situations that require resolution and prescribe a range of responses to resolve various possible situations.

Larger numbers of teachers are described as technicians. These teachers think and talk about instruction in terms of mechanics, e.g., instructional materials, prescribed curriculum, and diagnosis and prescription based on a particular system. Problem resolution for them means adaptation of instruction through the use of existing or new materials, procedures, or instructional systems. Most often, they expect these "things" to be developed and provided by someone other than themselves.

A third and equally large group of teachers are described as mythologists. These teachers talk about instruction in terms of conventional wisdom and a personal, preconceived view of what a teacher ought to do. They approach teaching as "the way it 'sposed to be" (Herndon, 1968). Problems are viewed as externally caused and subject to little, if any, teacher control.

Hall (1979) has outlined teachers' Stages of Concern regarding new curriculum, teaching strategies, learning strategies, and Levels of Use of these new products, procedures, or processes. Teachers' concerns are centered around awareness, informational, personal, management, consequence, collaboration, and refocusing issues. Teachers' use of new products vary from non-use through orientation, preparation, mechanical use, routine use, refinement, and renewal. Among teachers in a given school or a group of teachers from several schools, all stages may be represented.

Thus, a given group of teachers will be diverse in many ways. If we are to meet the expectations of policymakers, we must give attention to the diversity among individuals in the teacher work force, and the potential future expansion of this diversity. We must question the appropriateness and capacity of various teacher development strategies to upgrade the skills and knowledge of the wide range of individuals who will participate. Differences in teachers' academic abilities, experiences, cognitive development, and conceptions of teaching combine to create a complex context for teacher development. They pose challenges that must be met.

Context 3: The Schools in Which Teachers Teach

The accumulating data on effective schools suggest that the schools in which teachers work have an important impact on teacher development. Bringing together findings from several areas of research, Levine (1984) has delimited exemplary, high-performance schools as places with clearly defined missions; strong leadership; consistency among goals, instructional programs, and performance measures; a shared culture or set of values; continuous feedback; communication among faculty and between faculty and administration; and frequent measures of student performance. She states that these characteristics are remarkably like those of excellent private companies in the nation. Like good campuses, good schools reduce isolation among teachers and establish expectations that teachers will improve and modify their performance in order to achieve the goals set by the faculty. Levine points out, however, that these conditions and cultural elements unfortunately are seldom found in public schools.

Since most public schools do not provide the conditions and culture of the more effective schools, it is important for individuals who will be studying, planning, and conducting future experienced-teacher development to know what a more typical school is like. Several researchers (e.g., Lortie, 1975; Ward & Tikunoff, 1984) have provided information regarding the characteristics of more typical schools. Three characteristics are particularly worrisome. These are (1) the isolation of teachers from information about the strengths and weaknesses of their teaching and from new ideas that may improve their teaching, (2) the lack of a future orientation in their work, and (3) feelings of powerlessness.

Isolation. Rosenholtz (1984) has pointed out that teachers spend much of their time cut off from other colleagues, neither seeing nor hearing others teach. The egg-crate arrangement of classrooms in many schools, including open-space schools in which bookcases and other furniture form visual and space barriers, contributes to this situation. In such settings, seeking advice from other teachers is often viewed as an admission of incompetence (Glidewell, Tucker, Todt, & Cox, 1983). Further, as Lortie (1975) has noted, teachers in such isolated settings must depend upon their own ability to detect problems and find solutions. Trial and error becomes the main mode of learning for experienced teachers.

In contrast, collaboration among teachers is a central characteristic of more effective schools. Ashton, Webb, and Doda (1983); Cohen (1983); and McLaughlin and Marsh (1978), among others, have spoken to the importance of professional dialogue and collaboration. They note that in schools where teacher interaction occurs on a frequent basis, conversations often include requests for and offers of assistance. Little (1982a) has reported that such interaction, in turn, leads to greater experimentation within classrooms. In schools like these, problem solving becomes an accepted feature of ongoing improvement rather than an admission that something was wrong (the view taken in schools where no dialogue and collaboration occur).

Teachers recognize the usefulness of help from other teachers. In response to the open-ended question, "What about the school helps you to be a more effective teacher?" Ward and Tikunoff (1984) found that the urban teachers they studied listed "information and help received from other teachers" as such a feature. However, less than one-fourth of the teachers believed that such collaboration existed at their school. Clearly, the degree of interaction and professional collaboration in a school has a marked impact on teacher development and training.

Lack of future orientation. Lortie (1975) has identified the "presentism" of teachers. In particular, he notes that for many, teaching lacks a future orientation or a career hierarchy because the work teachers do and the responsibilities assigned to them remain largely the same throughout their career. Further, the instructional plans of teachers generally focus on a brief time period. Some plans may extend through a semester or a school year, but many cover only a single class period, day, or week of instruction.

Such circumstances offer little reason for teachers to continue developing their skills and knowledge over time. Yet, teachers appear to have a desire to grow. Based on the findings of Bredeson, Fruth, and Kasten (1983); Chapman and Hutcheson (1982); and Frataccia and Hennington (1982), Rosenholtz (1984) has identified the lack of opportunity for professional growth and development as one of the main reasons individuals leave teaching. Schlechty, Crowell, Whitford, and Joslin (1984) have stated that a strength of teacher centers may be in the psychic rewards and honor teachers gain by instructing other teachers and being acknowledged by their peers as successful. Shanker (1984) has reported Harris Poll data that 90% of the teachers support periodic evaluation by administrators and 87% favor career ladders to provide greater opportunities, more responsibility, and more pay. He states, "Teachers seek serious and responsible change and are willing to make personal sacrifices and to take on more work themselves to make these changes successful" (p. E-7). The fact that teachers in effective schools are involved in development and conduct of long-range school improvement plans further supports the premise that teachers can grow and develop.

One argument for the career ladder is that it introduces a growth and future orientation into teaching careers. Other approaches to removing the "presentism" of teaching also need to be considered. Teacher development has little value for a person who thinks, plans, and works only on a "here and now" basis.

Feelings of powerlessness. The literature on effective schools and teaching identifies teacher efficacy as an essential element of effectiveness. Effective teachers in effective schools feel that they can teach and can make a difference in students' learning (Ashton et al., 1983). Teachers value helping students learn (Lortie, 1975). But many factors in less effective schools work against their obtaining this satisfaction.

Ashton (1983), for example, has reported that teachers in most schools have difficulty obtaining feedback about how well they are doing, and they are given little, if any, information that helps them become more successful with their students. Teacher isolation contributes to this problem, as well as teacher evaluation that is summative rather than formative (Darling-Hammond, Wise, &

Pease, 1983). The difficulties are compounded by administrators who seldom or never assist teachers.

Other conditions in a school add to teachers' feelings of frustration and inability to accomplish the most important goal: to have an impact on children's learning. Among these are the lack of a schoolwide system for dealing with disruptive students, frequent external disruptions while the teacher is teaching, lack of needed materials and equipment, poor building and classroom maintenance, and poor security (Rosenholtz, 1984; Ward & Tikunoff, 1984). Because factors of this sort are beyond teachers' control, their feelings of powerlessness are increased.

As a result, Levine (1984) has noted that too many excellent teachers leave teaching. She has further speculated that "many who might become excellent if they had the appropriate environment for improvement and professional growth, also leave, feeling themselves to be failures" (p. 16).

Obviously, experienced teacher development within the context of a typical school faces many challenges. The organizational environment of most schools and the culture of teaching within them must change if teachers are to grow and if the responsibilities they assume are to expand in concert with this growth (Levine, 1984). Some recent education reform and teacher training efforts have attempted to modify the school setting while also developing experienced teachers' skills and knowledge. Goodlad (1983) has suggested school-level improvement as the most productive approach to upgrading education in the nation. Whether or not it is part of a school improvement effort, the design, conduct, and evaluation of experienced teacher training must take the school context into account. Schlechty et al. (1984) go so far as to contend that "the complex interactions of schools and schooling processes virtually preclude the development of a causal framework that assumes that staff development is a cause and some form of student outcome is an effect." They state that "knowing what one should do or what one wants to do [relative to staff development] does not assure that one can do these things in the complex environment of schools" (p. 22).

Context 4: The School Administrator

Teachers who work in a school with an effective principal have a distinct advantage over those who do not, even when the two sets of teachers have the same levels of expertise and commitment to helping students learn (Boyer, 1983). Thus, the effectiveness of principals and other school administrators affects teacher development at a given school.

Parents in turn-around schools, once-effective schools that have become excellent, point to the arrival of a new principal as the day when improvement began. In group interviews, they make statements such as, "The teachers in the school are the same people but they are not the same teachers under this principal" (Ward, 1983). Little (1982a) states that by virtue of their office and their performance, principals were in a unique position to establish and maintain norms of collegiality and experimentation in a school. She further notes that principals can promote and foster talk among school staff about practice, observation of practice, joint work on materials, and teaching each other about teaching.

Levine (1984) notes that "the role of the principal in improving the quality of teaching and the effectiveness of schools is central" (p. 50). She also states that the success of principals depends upon a set of skills and abilities that are not typically identified and developed in principal training programs. Ward and Tikunoff (1984) have found that teachers consider their school administrator to be the most important help--or the greatest hindrance--to their being more effective teachers.

What does a school principal do that helps teachers be more effective? Data from recent research (e.g., Bossert, 1982; Hall, Rutherford, Hord, & Huling, 1984; Persell, 1982; Levine, 1984; Rosenholtz, 1984; Ward & Tikunoff, 1984) describe schools with effective principals as places where the goals for students and teachers are clear and have been discussed and agreed to by all faculty members. Effective administrators scan and monitor the environment continually, noticing when change is required and then balancing this change with the goals of the school and the individuals within it. They have a vision, build a plan, and develop a process for making needed changes, and then they prod to be sure the changes take place. The plan and process are jointly constructed by administrators, teachers, and possibly parents and students. Effective administrators are visible. They are "out and about the school" visiting classrooms, frequently observing teachers informally as well as evaluating formally. They volunteer information, material, and motivational support for improvements undertaken by the school staff. In sum, effective administrators are responsible for developing the best expectations and actions toward teachers (Hall, Rutherford, Hord, & Huling, 1984).

Unfortunately, the data reported by Ward and Tikunoff (1984) indicate that only 25% of the teachers in the large urban district they studied perceived that the administrators (principal and vice principals) in their schools functioned effectively. In approximately 75% of the schools, teachers reported that the climate of the school was seldom businesslike and oriented toward learning and instruction (getting work done). Such interruptions as buzzers, requests from the office, and student tardiness were not controlled by the administrators and frequently interfered with instruction. Teachers were seldom involved in goal setting for the school or in deciding what steps to take for improvement. They reported that an administrator seldom visited their classrooms for any purpose or assisted them with improvement of their instruction.

Levine (1984) and numerous others have concluded that reform in the ways schools operate and in the culture of teaching must occur at the building level. This being the case, an important consideration in teacher development is the extent to which school administrators encourage and facilitate, or discourage and destroy, attempts by experienced teachers to become more effective and to improve the quality of the instructional program. Teacher development programs should include development of the skills and knowledge experienced administrators will need to apply in order to facilitate and support the desired growth in teacher skills. Efforts that focus only on building teachers' skills and knowledge may fail, not because of teacher recalcitrance and unwillingness to change but because school administrators do not know how to support the desired improvements and thwart the improvement process.

Given these multiple contexts, teacher development during the decade ahead will indeed be complex and challenging. The expectations and demands of policy makers and politicians have created a "must-produce" environment. Whatever is done, teachers are expected to teach better and students are expected to learn more in the years ahead. This challenge is complicated by information suggesting that the academic abilities of individuals entering the profession may not be as high as we would wish and that the skills and conceptual frameworks of experienced teachers vary greatly. Thus, the approaches to teacher development we employ not only must show rapid impact, they also must produce improvements in a new, potentially inexperienced teacher work force, many of whom may have less-than-average academic ability compared with other college graduates. At the same time, these approaches must provide growth opportunities for an older, probably more capable, but nonetheless diverse experienced teacher work force.

If we are to be successful in future teacher development efforts, we must pay attention to the organization and culture of schools and the upgrading of administrator skills and instructional leadership. An expanded view of experienced teacher development is required.

Current Practices in Teacher Development

Having explored the expectations that teacher development must meet and the factors to which we must attend as we build and carry out teacher development programs in the future, a logical next step is to consider the extent to which current approaches provide models for future action.

Review of current practices in teacher development leaves one with the general impression of a dichotomy. A few exemplary practices come close to attending to all the dimensions of teacher development and to providing development that upgrades and improves teaching and learning in the schools. Most practices, however, continue to focus on only bits and pieces of the range of behaviors and functions that comprise effective teaching and effective schools. As Rauth (1981) has pointed out, in most situations, one might ask, "What is experienced teacher development?", for few exemplary efforts are found in schools and even fewer in school districts as a whole.

Why Conduct Teacher Development?

Fenstermacher and Berliner (1983) have defined staff development as applied to experienced teacher development as "the provision of activities designed to advance the knowledge, skills, and understanding of teachers in ways that lead to changes in their thinking and classroom behavior" (p. 4). Schlechty et al. (1984) have contended that since the legitimate goal of schools is to provide for the education of children, staff development is legitimized only to "the extent that the activities associated with staff development can be intellectually, conceptually, or empirically linked to the education of children" (p. 12).

Fenstermacher and Berliner (1983) have suggested three purposes for experienced teacher development: to effect compliance to laws, policies, or regulations; to remediate perceived deficiencies of teachers; or to enrich teachers' knowledge and skills. Edwards (1981) has stated that most teacher development efforts have some change in the participants as a goal. She identifies three types of change: the acquisition of new information and skills;

remediation; and the development and expansion of the functions teachers can perform.

From a more pragmatic view, based on data obtained regarding teacher development in a large school district, Schlechty et al. (1984) have indicated that rather than producing change or improvement, one of the more important consequences is to "keep things from getting worse" (p. 11). They further note that many teachers participated voluntarily in development activities in order to find out what was going on in other schools and to "share war stories or to visit with friends" (p. 12), in effect reducing their own isolation. Other teachers participated to earn credits for advancement on the school district salary scale or for promotion to positions other than teaching.

All this suggests that, in the real world of schools and school districts, the purposes set out by individuals responsible for teacher development may often be more idealistic than those of the teachers who participate. Experienced teachers may not intend to change as a result of participation in development efforts, even though change of some sort is a stated goal of the activities in which they engage. Further, as Schlechty et al. (1984) have found, some experienced teachers volunteer to participate in every development activity to which they can gain access. Others resist participation in any activity. Because those who plan and conduct development efforts generally assume that nonvolunteers require extrinsic rewards or punishments to compel them to participate, the focus of a development effort may shift from improvement to attendance, money earned, credits received, and so forth.

One must conclude that teacher development serves many functions, only one of which is improvement of the instruction students receive. And one must acknowledge that "the principal focus of planning and implementation activities related to [experienced teacher] staff development [often] is upon what the participants will do in a given program" (Griffin, 1983, p. 422). This being the case, the purpose of conducting experienced teacher development is best defined by the things teachers do while engaging in the development efforts being offered--by the extent to which teachers are carrying out activities that maintain a desired level of instructional quality, improve or increase this quality, or expand the range of functions they may perform as teachers delimits. At present, the purposes of experienced teacher development are best derived by the individuals who participate in teacher development activities, within the situational contexts where they take place.

Some Features of Current Teacher Development

When one looks at the entire range of school districts in the nation, two features appear to be most descriptive of teacher development: its relative nonexistence (Rauth, 1981) and its dubious legitimacy in the context of schools (Schlechty, Crowell, Whitford, & Joslin, 1984). Rauth has noted that as funding for education has become more and more limited, the majority of school systems have moved to only one, two, or three inservice education days per year. Even the new teacher training programs that have been proposed in some states provide funds for extensive training of only a few teachers in a few schools or for only a small number of training days for larger numbers of teachers. Schlechty et al. (1984) have pointed out that linkages are often vague or nonexistent teacher development programs and implementation of improvements in the education program provided to students.

What, then, characterizes typical teacher development? Rosenholtz (1984) has described it as short-term, infrequent, not specific, designed by central administrative staffs, and not very effective. Howey and Vaughan (1983) have pointed out in their national survey that a great majority of teachers reported they were engaged in staff development not more than once a year. They also note that most people who conduct teacher development efforts do so on a part-time basis, with other major responsibilities given priority over teacher development efforts. Further, few of these individuals have received special training in teacher development, even though training would permit them to provide more effective development programs (Griffin, Barnes, O'Neal, Edwards, Defino, & Hukill, 1983). Sprinthall and Thies-Sprinthall (1983), Tikunoff and Ward (1981), and Hall (1979) have all suggested that experienced teachers' cognitive development levels, perceptions of teaching, and concerns about change require adaptation of training to the various ways in which teachers conceptualize their role and think about how to change what goes on in their classrooms.

Additional features of typical, but not necessarily exemplary teacher development programs have been nominated by Howey and Vaughan (1983), Griffin (1983), Schlechty et al. (1984), and Lawrence and Harrison (1980). They include:

> Determination of the content of the development effort is based on the judgmental perception of an authority figure in the school system.
>
> The content and teaching strategies encompassed by the training take little account of the students, classrooms, and schools of the participants.

There is little coordination among the various development efforts in which a given teacher may participate.

There is little, if any, inquiry into and analysis of the participant's existing skills, knowledge, or concerns or of the aspects of the instructional program that require improvement.

The development program seldom refers to or uses the increasing knowledge base regarding effective teaching, schools, and learning.

The participants receive little feedback on the appropriateness or quality of their classroom, use of skills and knowledge covered in the training, or of the changes that occur in their education programs as a result of applying the skills and knowledge.

Teachers are seen as the sole source of problems in the education program and the sole persons responsible for its improvement.

Administrators are seldom involved in selecting training program content or participating in the training itself, although they may be responsible for determining which teachers participate.

Participation in teacher development and accompanying monetary benefits or more desirable assignments are used as a means of rewarding teachers perceived to have done well in the past.

More typical of the nation as a whole are teacher development programs in smaller school districts. Partly due to limitations in monetary and human resources, a typical teacher development effort may be expected to include one or two workshops conducted for all the teachers in the district. The workshops may encompass a full day's activity before the school year begins, one or more 2- to 3-hour sessions held after the conclusion of the students' regular school day, or a 2- to 3-hour session held on a "shortened" school day, when students are dismissed at noon or shortly thereafter. Attendance is required for workshops conducted before school begins and on shortened days and is voluntary for after-school sessions. At times, separate workshops may be held for elementary and secondary teachers or for teachers interested in particular subject matter areas, but often all teachers attend the same workshop.

Since most school districts are too small to support a teacher development staff, these workshops are generally conducted by a consultant who comes to the district for only the day(s) when the training is to occur. Provision of follow-up and implementation assistance therefore is highly unlikely. The relevance of the training to the district's current improvement goals, if they exist, is dependent upon (1) whether someone in the district makes a thoughtful selection of the consultant who is hired to do the training and (2) whether the consultant makes an effort to find out about the district's improvement efforts prior to the training day and to adapt at least some of the training to local interests and needs instead of presenting a "canned" workshop. Evaluation is based on the participants' feelings about the workshop, with primary attention to the manner in which the workshop was conducted and secondary attention to the information presented. Participant intent to apply workshop content is seldom assessed. Actual use of the content is even less likely to be investigated.

In larger districts, those serving 50,000 students or more, and in smaller districts that have joined with others to form teacher development consortia or centers, teacher development is more apt to be carried out by a special staff employed for this purpose. My observations of programs underway in districts of this size indicate that they offer three types of teacher development activities in addition to the training offered by small districts.

One activity, the introduction of new instructional materials such as textbooks, acquaints teachers with the content of the materials and specific teaching-learning strategies that may be incorporated. Frequently, large lecture sessions are used to present this information. Less often, grade-level or school-based meetings are held to afford teachers an opportunity to review the materials and to ask questions about their use with particular types of students and in particular types of schools. Less frequently, teachers receive training in the teaching-learning strategies that should accompany use of the materials.

Another activity is the improvement of teaching skills, per se. Increasingly, these programs are built around recent research findings regarding effective, classroom management, or student discipline and motivation. Often, local district personnel contact an individual or agency that has designed a special training package or program and use this as the training vehicle (e.g., programs developed by individuals such as Evertson, 1980; Stallings, 1981; Hunter, 1976). Generally, the training is conducted by district staff members who may or may not have received special training in the use of the package or program they have selected. Teacher participation is voluntary. Credits for advancement on the salary scale or toward an advanced degree may be offered. The number of participants from each school is probably limited. Generally, school administrators do not participate, nor do they engage in special administrator workshops to introduce them to the skills and knowledge the teachers are expected to apply and for which they may be evaluated.

In these "teacher improvement" programs, the training generally includes several sessions spread over a period of several weeks or months. All participating teachers receive the same training. In a very few programs, trainers may go to participant classrooms to observe and make recommendations about the application of skills. Evaluation may be based on the teachers' increased use of the teaching skills being learned, but even in these programs, teacher opinions about the enjoyability of the experience and the usefulness of the information and skills are most apt to serve as evaluative data.

The third type of experienced-teacher development is school-based improvement in some facet of the instructional program that the school staff is attempting to upgrade. A few such efforts are currently occurring, although the larger the district and the larger the centralized teacher development staff, the greater the resistance seems to be to such efforts. Frequently, school-based training begins with total staff analysis of the strengths and weaknesses of the school's education program based on what is known about effective schools, teaching, and learning. This analysis is preceded by workshops that acquaint teachers and the administrators with knowledge about the characteristics of effective schools. In some instances, tools are provided for assessing the extent to which administrators, teachers, students, and the school's education program in general meet the effectiveness criteria. Follow-up technical assistance focuses on the areas of improvement identified by each specific school group. If several schools happen to select similar aspects to be improved, some combined training may be provided. However, since each school may opt to undertake improvement of a different facet of the instructional program, each school staff is required to take considerable responsibility for searching out needed information, trying out new teaching strategies, and observing and providing feedback to one another on the effectiveness of their use of old and new strategies. In some of these efforts, but not in all, the school staffs develop improvement plans that extend over several years and include timelines for the successful introduction of selected elements of effective teaching, administrator instructional leadership, school-level support systems, and so forth.

Features of More Effective Programs

Within the past few years, characteristics of more effective teacher development have been identified. Griffin (1983) has included a list of characteristics in a paper prepared for an NIE-sponsored Arlie House Conference on

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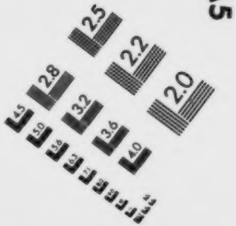
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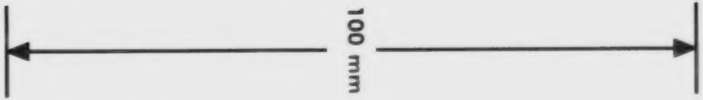

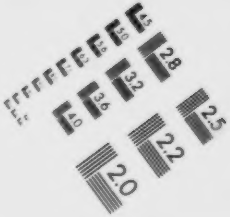
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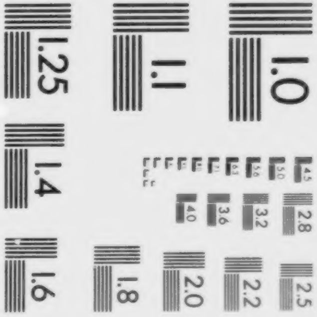
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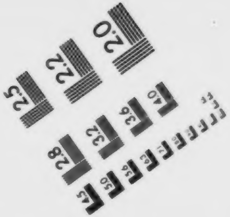
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the Implications of Research on Teaching for Practice. Lawrence and Harrison (1980) have conducted a meta-analysis of findings from quantitative studies of staff development efforts and compiled guidelines for making such programs more effective in the future. The 1983 Yearbook of the National Society for the Study of Education was devoted to what we know about effective staff development (Griffin, 1983). Levine (1984), Rosenholtz (1984), and Schlechty et al. (1984), among others, have recently reviewed and added to this information.

In these compilations, the features that bring about more effective teacher development are those that produce desired changes in the education program provided by the school, the culture of the school, and the range of responsibilities assumed by various teachers. They include the following:

> Programs are targeted to improving the education program offered to students by a specific school. School-based needs defined by the teachers and administrators in the school drive the developmental efforts that are carried out.
>
> Teacher-administrator teams and other professional collegial relationships are used to identify the needed improvements and to set about putting them into operation.
>
> The focus is on development of the expertise of all faculty members rather than on remediation of the deficiencies of a few. However, in larger schools, subgroups of less than 30 participants are formed to carry out the improvement efforts.
>
> Diverse program patterns are used. General, large-group workshops do not serve as the primary training mechanism. Self-instruction, peer study groups, in-class observation by peers or technical assistants, coaching by peers or technical assistants, one-to-one consultation with an "expert," and special courses are used as fits the situation.
>
> Teachers and administrators provide much of the substantive and procedural input and guidance for the program, rather than external consultants or central district personnel.
>
> Experienced-teacher and administrator development is a continuous process, is built into the regular school program, and is a topic of discussion among faculty members.
>
> Models and exemplars are used to present new information, strategies and materials. These presentations are followed by observation and coaching as teachers and administrators adapt the new information in their work situations.
>
> After new information, teaching behaviors, and materials are introduced, teachers are provided time to talk about their applicability and usefulness in the classroom and are required to try them out; return to the larger group

with information about what happened; and engaged in further revision, testing, and reporting to the group.

Evaluation is formative and stresses improvements in the skills and knowledge of the entire faculty.

The necessary support materials and technical assistance are provided at the school level.

Lawrence and Harrison (1980) have provided data pointing to the importance of the above features. In particular, their meta-analysis of 59 studies of teacher development showed that programs initiated inside schools had a mean effect size of 1.40 contrasted with .72 for other approaches. In other words, teachers participating in school-based programs performed the skills being presented in the development effort about three-fourths of a standard deviation better than teachers who participated in other types of programs. The researchers concluded that successful programs treat their participants "as professionals, as conscientious people who want to continue to expand their skills and their range of professional competence" (p. 159). However, it also is important to note that they consider an effect size of .76, which was obtained when all approaches were combined, to be large enough to conclude that "any professional development is probably better than none" (p. 151).

Although general descriptors of more effective experienced-teacher development programs are useful in terms of talking about future teacher development efforts, school district personnel who want to implement such effective programs undoubtedly will require the same sort of models that have been shown to be effective training mechanisms for teachers. Consider the following two examples of actual operating programs which incorporate many of the desired characteristics.

West Linn High School, West Linn, Oregon. At West Linn High School, faculty development is a major concern. Several improvement efforts are ongoing. First, the entire school staff agrees upon particular aspects of the school's education program as the focus of attention during a given school year. School and departmental groups of teachers outline steps to be taken to improve these specific parts of the program. One administrator has responsibility to support these improvement efforts by identifying training opportunities relevant to various departmental improvement efforts, preparing proposals to obtain district and supplementary funds for desired training activities, and arranging for teachers to attend professional conferences and other meetings on topics of interest to the school. At the end of each school year, the department subgroups and the total faculty assess the progress that has been made. For the most part, these assessments are based on subjective judgment rather than objective observation or measurement of change, although some objective data may be included.

A second ongoing activity is peer observation. Each teacher and administrator in the school is required to observe another teacher at least once during the year and report back to the entire faculty one or more good ideas or techniques obtained from the observation. Although this activity was originally imposed by the school principal and most teachers were not enamored of the notion, they now find this practice stimulating and helpful and are pushing to gain support for observation in other schools as well.

The third area of improvement at West Linn High is around the induction of new teachers and the periodic review of experienced teachers. Even though some new teachers may have had several years' experience in other schools, they undergo extensive observation, coaching, and formative evaluation by their peers and summative evaluation by the school principal during the 3-year induction period. Thus, it is not assumed that prior teaching experience necessarily is relevant to the context of West Linn High. Tenured teachers undergo similar development experiences every two or three years.

To support this process, department chairpersons are provided a second professional development period each day which is used to perform functions such as observing new and tenured teachers as they teach, teaching classes for other teachers so they can observe one another, and conducting coaching sessions with other teachers. If the principal's summative evaluation suggests a teacher's performance can be improved, all teachers in the department to which that teacher is assigned--and occasionally teachers from other departments--are involved in planning and assistance to the teacher. External training opportunities and professional meetings are often used to expand the teacher's skills and knowledge.

Daily memoranda inform teachers of new findings about effective teaching and effective secondary schools. Special, short-term training programs are provided for departmental groups or cross-department groups of teachers who want, for example, to build their classroom observation skills, explore new approaches to development of students' higher cognitive skills. Total faculty training has been conducted in discipline techniques.

San Mateo City Schools, San Mateo, California. Increasing the effectiveness of instruction is a districtwide goal of the San Mateo schools. Each school is required to select the aspects of effective instruction on which the staff will focus during a particular school year and to develop and submit an improvement plan. The areas of emphasis and the plans may differ from school to school. To support the improvement effort, a Teacher Fellow Program has been initiated. (It is currently supported by funds from a private foundation but could also operate under the California state-level mentor teacher program initiated this year.)

Teacher Fellows are classroom teachers identified as being highly effective in one or more aspects of instruction. They receive some but not extensive training in working with teachers as learners and updating of their knowledge of the literature on effective teaching, schools, and learning. They are available to district schools to work with the faculty as a whole or with individual teachers. They provide training, demonstration lessons, observations, and consultation, and feedback.

To illustrate how the program operates, teachers at Borel Middle School selected the development of students' critical thinking skills and teacher questioning strategies as their areas of focus. Teacher Fellows with expertise in these areas work collegially with the Borel staff to design and conduct training sessions, demonstration lessons, observations, and feedback sessions related to these skill areas. The program is especially designed to meet the interests and needs of teachers at Borel. It is ongoing throughout the school year. Training takes place at the school site. Some activities occur during the regular school day and others before or after school or on reduced-time days. Observations conducted by the Teacher Fellows may be used to assess the extent to which the desired improvements occur in the instructional program.

San Mateo schools are provided with some funds to support individual teacher development efforts whenever a teacher requests support or the school principal identifies an area in which a teacher needs to improve. External training sessions often serve as the vehicle for individual teacher development. At Borel, the entire staff has also undertaken the design and implementation of a student study skills program that involves teachers in all subject areas and grade levels. This effort is supported with minimal consultant assistance and some teacher participation in special external training sessions and sessions at professional meetings. Most of the planning, development, and implementation work have been carried out by school teachers and administrators.

Missing Elements in Experienced Teacher Education: The Challenge for the Future

Given that the discrepancy between what works best in developing the skills and knowledge of experienced teachers and the ways in which such efforts typically are conducted is obvious, we must agree that there is considerable room for improvement in experienced teacher development programs. Fortunately, a few programs incorporate most if not all of the features of effective teacher training. In fact, comparisons of these efforts with no teacher training and with more typical training approaches provide the data from which the features of effective teacher development have been derived. The ways in which these more successful programs operate offer direction for future efforts in other settings. However, even in the more successful efforts, some elements of effective development of experienced adults are missing. We must give prompt attention to the following program elements:

Much wider use of school-based programs.

Broader scope--attention not only to changes in individual teachers but also to the aspects of the school that must be modified to facilitate and support the desired change in teaching.

Longer timelines so that improvements can be planned; comprehensive training efforts can be conducted; new skills, knowledge, procedures, and processes can be implemented; and their impact can be verified before a development effort is considered complete.

Extensive ongoing involvement of teachers in research efforts to identify areas for improvement of instruction and other aspects of the school program, assess current school problems, obtain training and other technical assistance to resolve the problems, and study the effects of whatever changes are introduced.

Increased design of development efforts that accommodate differences in teachers' cognitive development, conceptions of teaching, concerns about change, and use of new skills and knowledge.

Multiple patterns of teacher involvement in development efforts based on a staged career (differentiated staffing), to take advantage of experienced teachers' expertise and their desire to make positive contributions to improvement of the education program.

Training of mentor or master teachers and other trainers in the knowledge bases of effective teaching and effective schools and in the skills required for working with adults as learners.

> Expansion of evaluation beyond soliciting teachers' opinions of the training experience to include assessment of (1) teacher application of skills and knowledge, (2) the effects of this application on the quality of classroom instruction and on the school, and (3) changes in student learning outcomes.
>
> Specialized training of administrators in the facilitating and supporting of ongoing teacher development in their schools and inclusion of school administrators as participants in school-based training efforts.

Models that incorporate these features developed by Schlechty and his colleagues in North Carolina has both a research and development base and differentiated responsibilities for teachers. The interactive research and development approach originally tested by Tikunoff, Ward, and Griffin (1981) in California and Vermont and extended by Griffin and Hukill (1983) in the greater New York City area, Oja (1983) in New Hampshire, and Huling (1982) in Texas illustrates how teachers, researchers, and developers can work together to conduct improvement efforts of the scope suggested here. Sprinthall and Thies-Sprinthall (1983) and Joyce and Showers (1981), among others, offer examples of ways to incorporate the modeling, observation, coaching, and reflection strategies required by adult learners in teacher development efforts.

As we undertake the introduction of the required improvements in teacher development programs, we must remember what was learned when Sweden introduced a countrywide effort to develop the school leader role. Ekholm (1980) reported:

> Changing the forms of work and relations between individuals in the school...seems to require a period of approximately 5 to 7 years. Only a change process over that length of time has a realistic chance of achieving tangible effects (Ekholm, 1980, p. 197).

Ekholm points out that solution giving is the least effective role an individual can play who wishes to improve the education program. Acting as a catalyst or as a process-helper while providing needed information, personnel, and material resources is a far more effective approach. Future experienced teacher development should explore much more thoroughly the roles that researchers, experienced teachers, and school administrators can best serve on a school-based development team. As Schlechty et al. (1984) has pointed out, "Until most teachers and administrators view research as a way of finding out what is really going on and why things go on as they do..., research and theory are unlikely to serve as a basis for legitimizing [experienced teacher development]" (p. 28). A change in attitude may be brought about by the right sort of collaboration on school-based improvement teams.

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STATE ACTIONS TO IMPROVE THE QUALITY, ATTRACTIVENESS, AND HOLDING POWER OF THE TEACHING PROFESSION: WHAT ARE THE IMPLICATIONS FOR TEACHER TRAINING?

Robert Palaich
Education Commission of the States

The advantages and disadvantages of old and new systems for assuring teacher quality are being widely and sometimes heatedly debated across the country. The liveliness of the debate, which has intensified since the 1983 release of national reports on education, is both exciting and somewhat unsettling. Clearly, agreement is not being easily reached. Clearly, too, the issues of teacher quality, themselves complex, are only part of the search for ways to improve public education.

How do states decide on strategies to enhance the quality of their teacher work force? Given that interest in enhanced teacher quality now runs strong in many states and districts, what sorts of goals do education policy makers hope to accomplish, and what are the practical implications of these policies for teacher training programs?

Creating a plan that enhances teacher quality, that is acceptable to teachers, administrators, teacher trainers, and the community, and that improves teaching is difficult because there are many access points in the development of a teacher. Improved preservice training, increased monetary rewards, improved school climate, and increased school planning are all points at which the development of a teacher can be positively influenced.

Because basing pay on performance is often seen as a means of holding teachers accountable, states are looking to some type of performance-based compensation system as a way to gain support for a comprehensive program of school improvements. However, a performance-based reward system, alone, cannot bring about school improvement. Left on their own, teachers cannot improve their performance significantly if they either lack the necessary knowledge and skills or find themselves in conditions that discourage effective teaching. An effective reform strategy must also include a means of assimilating beginning teachers into the school culture, provision of staff development programs, and improvement of working conditions as well as financial incentives.

With the exception of merit pay, performance incentive systems are new. We have had little experience with such variations as career ladders and mentor teacher programs. For the most part, the justifications and expectations for such programs are extrapolated from research on effective teaching and effective schools. Incentive systems must be designed to meet school district goals. The first step is to identify precisely the conditions to be changed and the goals the system is intended to achieve.

Goals can be divided into four discrete types: (1) improving teaching and learning, (2) improving the school as an organization, (3) changing certain characteristics of the teacher work force, and (4) strengthening community confidence in the school. Because these goals can be expanded into diverse objectives, setting priorities among potentially competing objectives is crucial.

The goal of improving teaching and learning is at the heart of the debate on reward-for-performance systems. Establishing standards for teaching and learning and developing procedures for measuring performance against these standards are difficult, time-consuming, and controversial. However, since most of the interest in rewards for performance is rooted in the desire to reward teaching that promotes student achievement, virtually all states and school districts considering pay-system changes are wrestling with the task. Plans that fail to address teaching and learning goals are likely to disappoint the public, because expectations for improvements in this area are widespread.

The second goal focuses on the school as an organization rather than on individual teachers and students. Two typical objectives are to make schools more effective places to learn by changing the school climate and to equip schools to identify and solve their own problems. A reward-for-performance system can be a means of reinforcing organizational change rather than an independent policy. Although the system can still reward individual performance, it can also provide incentives for activities that promote school or department goals.

Changing the occurrence of certain traits within the teacher work force is the third goal. Higher pay may make school districts more attractive to teachers with high verbal ability or induce teachers to accept more difficult assignments such as positions in low-achieving schools or rural areas. Differential pay may also attract teachers to areas with a teacher shortage or encourage them to retrain to meet a district's needs.

The final goal is to align schools more closely with community values. Performance-based pay may reflect a community's values or may be the quid pro quo for more support for its schools. Community aspirations for a school system play a large role in determining the kind of teacher reform strategy that will work.

Given these policy goals, several implications for teacher training programs are clear. First, teacher trainers must decide what skills can and cannot be transferred to potential teachers in a quality training program: defining the professional body of knowledge is crucial. Second, consideration should be given to broadening our notion of teacher training to include apprenticeship service for new teachers. Local school districts are spending a great deal of money on staff development for existing teachers, and there is no reason teacher training programs should not be among the beneficiaries of such funds. Finally, more research is needed in the areas of local educational change, effective teaching, and teacher evaluation. Admittedly this is an ambitious agenda, but it is the direction in which state policy makers think the public wants to move. My hope is that educators will respond to the initiatives of policy makers so that it is not necessary for policy makers to skirt the existing school system completely, as has happened in New Jersey and California around the issue of certification requirements.

POLICY INTO PRACTICE: STAFF DEVELOPMENT RESOURCES

Deane L. Crowell
Charlotte-Mecklenburg Schools

The Charlotte-Mecklenburg School System is a network of 101 schools: 10 high schools, 21 junior high and middle schools, and 70 elementary schools. For 20 years, the system has dealt actively with major issues in public education such as consolidation of the county and city school systems, desegregation of teachers and students and the establishment of a vast system of busing to assure to each school racial ratios which mirror those of the community, and decentralization of a formerly highly centralized system into five areas, each headed by an area superintendent.

The school system has been blessed by a strong, courageous superintendent, whose legacy at retirement will be his visible commitment to making teaching a real profession. Jay Robinson says, "I want to make it possible for a teacher to enter teaching, become better at it with good training, receive a much improved salary to recognize these greater skills, and be able to retire from classroom teaching recognized and paid as a highly valued professional."

The Charlotte-Mecklenburg Teachers' Career Development Plan is the most visible manifestation of this strong belief. To assure the success of the Career Development Plan, the curriculum and staff provides the following staff training resources, which are available to all Charlotte-Mecklenburg employees:

Inservice Department. This department coordinates the annual planning and delivery of 440 to 450 workshops of 10 hours or more targeted to meet the identified needs of individuals, small groups, and entire faculties; an example is the recent completion of a two-year training program entitled "Effective Teaching," based on the teaching theory of Dr. Madeline Hunter, professor and principal of the University Elementary School at the University of California at Los Angeles. Nearly 5,000 persons have completed 30 hours of this training.

Teaching Learning Center. Several years ago, considerable funding at the national level caused much interest across the United States in establishing teacher centers. When the federal funding disappeared, so did most of the centers. Charlotte-Mecklenburg has believed so strongly in the concept of teacher centers that its center is now entering its ninth year of operation. From the beginning, this center has been supported with local funds designated for staff development. The belief is that individual teachers can most effectively assess and determine their needs for personal and professional growth and accomplish their goals with the assistance and active support of the Teaching Learning Center.

Human Relations Employee Assistance Program. Employees with concerns that interfere with job performance may individually refer themselves to one of the trained staff who provide this program. Referral can also be made by a supervisor. This program is endorsed officially by the board of education and last year was used by 500 Charlotte-Mecklenburg employees. Many teachers and persons in the community see this unique service as a major employee benefit.

Curriculum Research Center. This center provides professional media/technology resources that exceed those of most colleges and universities. Two media specialists and an aide provide professional support.

Metrolina Educational Consortium. The Charlotte-Mecklenburg Schools, the University of North Carolina at Charlotte and at Chapel Hill, and the State Department of Public Instruction participate in this consortium, whose purpose is to provide competency-based, advanced training programs for a variety of identified groups of staff. These job-embedded programs can lead to advanced degrees through the university; and the consortium itself can award advanced certification with the approval of a diverse external evaluation committee. The evidence is clear that the commitment to a strong, active staff development program is a high priority in the Charlotte-Mecklenburg Schools. Budget support remains strong.

The expectation is also clear--Charlotte-Mecklenburg's policy and program expect a professional growth plan for each employee, provide the program and training resources to enable these plans to be accomplished, and evaluate the program and the persons on a continuing basis.

The education profession is on the "cutting edge!" We must move ahead by using intelligence and integrity to improve the policy and programs of this nation's schools.

COOPERATIVE LEARNING: RESEARCH AND IMPLEMENTATION

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Cooperative learning methods (Slavin, 1980a, 1983a) are classroom instructional techniques in which students work in small heterogeneous learning groups to master material initially presented by the teacher. In these methods, groups typically receive rewards (such as recognition in class, newsletters, and certificates) based on the learning of the group as a whole. Group rewards distinguish cooperative learning activities from traditional group work activities; they provide an incentive for students to encourage and assist their group mates to learn.

While research on cooperative goal structures is very old in social psychology, and group work is well established in instructional practice, cooperative learning methods combining group work and group goals are relatively recent, most methods having been developed in the early 1970s. The most widely researched and used cooperative learning methods include Jigsaw teaching (Aronson et al., 1978), Group Investigation (Sharan & Sharan, 1976), cooperative methods developed by Johnson and Johnson (1975), Teams-Games-Tournament (DeVries & Slavin, 1978), Student Teams-Achievement Divisions (Slavin, 1978), and Team Assisted Individualization (Slavin, Leavey, & Madden, 1984). These methods vary widely in particulars and in applications. For example, Group Investigation (Sharan & Sharan, 1976) is an inquiry-oriented program used principally in social studies, in which students in groups divide tasks and work to produce group products; while Student Teams-Achievement Divisions (Slavin, 1978) is a highly structured program in which group members study worksheets and help one another master materials initially presented by the teacher in preparation for individual quizzes. The quiz scores are summed to form team scores, and high-scoring teams are rewarded. STAD is used in a wide variety of subjects but is particularly focused on mastery of basic skills such as mathematics and language arts.

Though there are great differences among them, all cooperative learning methods do share certain characteristics:

1. Students work in regularly constituted groups that are mixed in academic performance levels, sex, and ethnicity. The groups typically have about four members.
2. Students are given responsibility for the learning of their group mates as well as their own learning. This responsibility is reinforced by other aspects of the methods. In some methods (e.g., STAD, TGT, and TAI), group mates are interdependent because their individual quiz scores are summed into team scores that serve as the basis of team rewards.

Research on Cooperative Learning

As of this writing, there have been approximately 50 methodologically adequate field experiments of at least two weeks' duration evaluating cooperative learning methods (see Sharan, 1980; Slavin, 1980a, 1983b). In most studies measuring achievement, students in cooperative learning classes achieve significantly more than control students. These effects are found equally consistently in elementary and secondary schools; in subjects of different kinds; and in inner-city, suburban, and rural schools.

However, the effects vary considerably according to which cooperative learning method is in use. Methods such as STAD, TGT, and TAI in which students are individually accountable for their learning and in which there are clear group rewards have been considerably more effective in increasing student achievement than methods in which students produce a single group product and individual contributions are difficult to identify (Slavin, 1983a). The most recently developed cooperative learning method, Team Assisted Individualization, is the most effective for student achievement. In six studies of TAI, which combines cooperative learning with individualized instruction, grade equivalent gains on standardized mathematics computations scales have been on the average twice as great as those experienced by control groups (Slavin et al., 1985).

In terms of social variables, cooperative learning methods have all been very successful in comparison to traditional instruction. The most frequently studied variable, race relations, can be profoundly affected by cooperative learning experiences (Slavin & Hansell, 1985). Cooperative learning methods operationalize most of the elements of Allport's (1954) contact theory of intergroup relations, which holds that intergroup contact must be nonsuperficial, noncompetitive (preferably cooperative), and equal-status if it is to result in improved intergroup relations.

Cooperative learning methods have been found to have positive effects on attitudes toward mainstreamed, academically handicapped students (Madden & Slavin, 1983), on the predisposition or tendency to cooperate rather than compete with peers, and on student self-esteem. Individual studies have found positive effects on such variables as time on task, attendance, and the ability to take another's perspective (see Slavin, 1983a).

Implementation of Cooperative Learning

An estimated 20,000 teachers use one or more of the Student Team Learning methods (Slavin, 1980b) developed at Johns Hopkins University: STAD, TGT, and a version of Jigsaw (Hollifield & Slavin, 1983). A similar number of teachers have been trained to use the Johnsons' methods (Johnson & Johnson, 1984), and many use the original form of Jigsaw. Approximately 300 classrooms are currently using TAI.

Hollifield (1983) surveyed teachers who ordered Student Team Learning (STL) materials in 1982. The 300 respondents were unevenly distributed across elementary school (51%), middle/junior high school (32%), and senior high school 17%). Twenty-three percent considered themselves "expert," 52% "getting good," and 22.9% "beginner." Sixty-three percent of the teachers surveyed had used the programs for two or more years, and 61% used STL in two or more classes or subjects at a time, the greatest numbers using the programs in math (32%) and language arts (31%), the areas with the most extensive STL materials available.

Interestingly, 60% of the teachers reported that they were the only ones in their building using STL, and an additional 30% reported only 1 to 2 additional users. The nature of the survey oversampled independent users, since school or district orders for materials often could not be traced to individual teachers, but even so this figure suggests that STL use is overwhelmingly a teacher-level decision and activity, not a school-level one.

STL methods have been disseminated mostly through the National Diffusion Network (NDN), a program that establishes facilitators in each state to help local districts adopt programs that have passed a rigorous evaluation for justification of claims of effectiveness. STAD, TGT, and TAI have passed this evaluation for achievement effects, and Student Team Learning as a whole has been approved for dissemination as a race relations program. Formerly, large adoptions of STL were often made through use of Title IV-C funds (usually in conjunction with the NDN) or through Title IV of the Civil Rights Act, often in cooperation with Race Desegregation Assistance Centers. However, funds for both these activities have been drastically reduced; most districts adopting these methods now do so using their own funds. STL is so inexpensive that substantial numbers of teachers purchase materials themselves or make their own.

Current Status of Research and Implementation

At present, research validating the basic cooperative learning models is giving way to "second-generation" research examining how and why cooperative learning produces its characteristic effects (see for example, Slavin, Sharan, Kagan, Hertz-Lazarowitz, Webb, & Schmuck, 1985). Work at Johns Hopkins is focused primarily on development of a new integrated reading/writing/language program and to a lesser extent on continuing research on TAI and STAD.

Dissemination of STL continues at an arithmetic, not a geometric pace. Increasing numbers of teachers and schools hear about STL through word of mouth; every state and a few foreign countries (Canada, Israel, Germany) have enthusiastic STL users and, in most cases, certified turnkey trainers who spread the word. On the other hand, cutbacks in federal funding have reduced the number of large-scale district adoptions. Use of TAI is growing very rapidly and this program was recently taken over by a commercial publisher, who is expected to promote it heavily.

Problems and Potential

Among university-developed, research-based programs, Student Team Learning and other cooperative learning methods have been quite successful in actually changing instructional practice. However, these methods are still used by a tiny fraction of all teachers, and at the current rate of growth will continue to receive little use. This is true despite the very favorable response to cooperative learning from teachers as well as students, the low cost and ease of training, and the clearly demonstrated effects of the programs. Perhaps a university-based dissemination program cannot hope to compete with commercial publishers, and cooperative learning will only attain widespread use when commercial publishers take over dissemination. However, a distressing phenomenon is also observed in many disseminations of cooperative learning methods: teachers report considerable enthusiasm and success with these methods but then fail to use them next year. Now that cooperative learning methods have repeatedly proven their effectiveness and their acceptability and adaptability to a wide range of circumstances, it is time we studied in more detail the process by which these methods are adopted, used, maintained, amd expanded, so that we can develop programs of dissemination with as good a research base and as careful and considered a design as the programs themselves.

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INTERACTIVE RESEARCH AND DEVELOPMENT: A MEETING OF MANY MINDS

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Interactive research and development is a strategy that brings teachers, researchers, and staff developers together in a collaborative team effort to systematically analyze teaching and schooling issues. This paper presents findings from a study entitled Interactive research and development on schooling (IR&DS), which was funded by the National Institute of Education and conducted from 1979 to 1981 at Teachers College, Columbia University, New York. The paper includes a description of the scope of the project, selected project outcomes, and some measures to be taken by those preparing to engage in an IR&D experience.

Action research is one of the antecedents of interactive research and development. Corey (1949) and others worked with school districts to assist practitioners in their study of teaching and schooling problems. A continuation of this work in a slightly different form is by Tikunoff, Ward, and Griffin (1979), Interactive Research and Development on Teaching, which focuses on concurrent research and development conducted by a collaborative team of four to six teachers, one researcher, and one staff developer. The IR&D model is based on two premises:

1. Traditional research or linear research has excluded the teacher as an active partner in research.
2. When research is communicated to teachers, they generally find the research and development language unfamiliar and uninterpretable.

These concerns about traditional research have been echoed by others (Clark & Guba, 1967; Guba & Clark, 1974; House, 1975).

The IR&D strategy developed by Tikunoff, Ward, and Griffin (1979) and the project on which this paper is focused have several essential features:

- --Team composition
    - 4-6 Teachers
        - 1 Researcher
        - 1 Staff Developer

- --Collaboration
    - Parity
    - Contribution according to role
        - Teachers--identification of problem
        - Researcher--how to study the problem
        - Developer--how to translate what we now know to practitioners

- --Problem-solving focus

- --Concurrent research and development

- --Maintenance of the integrity of the classroom/school

- --Intervention (staff development)

The R&D strategy as applied by Griffin, Lieberman, and Jacullo-Noto (1982), has the possibility of accomplishing (1) quality research, (2) the development of programs, (3) the personal and professional growth of participants, (4) institutional acceptance of and accommodation to the strategy as a problem-solving device, and (5) reduction of the time lapse between research and development.

The IR&DS study was conducted over a 2-year period in an urban/suburban area and involved three teams composed of teachers, researchers and a staff developer. The data collection procedures included audio recordings of team meetings, contact forms, and written logs. The audio recordings comprised 83 hours of talk by the SD team, 63 hours of talk by the TC team, and 37 hours of talk by the IA team. All participants were asked to write weekly logs of events, attitudes, and reactions as well as record all contacts with others about the project on contact forms. These data on team-member interaction showed that:

- --Teacher perspectives were dominant in the selection of the questions/problems to be researched.

- --Teachers continued to contribute substantially after the research question was selected.

- --All three teams followed in sequential order the research steps presented by the principal investigators.

- --The writing of the final research and development reports was handled in different ways. The teachers and the researcher on the SD team wrote the reports, all TC team members directly influenced the reports, and the IA team researcher wrote the reports.

- --The development phase of IR&DS was delayed by all three teams until much of the research effort had been conducted.

--The roles of the teachers, researchers, and developers varied from team to team and from year to year. On the average, however, among the three types of participants, the most dominant role was played by the researcher (or consultant when present); the second most dominant role was played by the teachers, who outnumbered the other members by about four to one; and the developer played the least prominent role of all.

--Technical assistance contacts between the teams were infrequent. Those initiated by team members were handled readily.

The key themes that emerge from this study are conflict, leadership, and rewards. Each team experienced these themes differently at different times in the implementation process. On all three teams, conflicting demands on time and an unclear understanding of the rewards offered by this work surfaced at different times. Leadership on all teams shifted during the duration of the project. Often teachers assumed leadership roles on the team in regard to developing research instruments, research design, and discussing ideas for development activities. Conflict occurred on all three teams at different times, at different levels, and concerning different issues. In some cases, the conflict was resolved quickly, but in others, it lingered over several months.

From the IR&DS study, it appears that three important characteristics of the researcher housed in the university are (1) that the researcher believe that teachers can do research, (2) that the researcher believe and provide for "interactiveness" by facilitating team participation in every aspect of the project, and (3) that the researcher be knowledgeable about the area of the team's concern.

The teachers' self-report showed substantial growth in several areas. Those involved said that they now realized the value of research and felt they could conduct research themselves. They learned a great deal about designing a research study and writing reports. One teacher commented, "We now feel we can speak with authority not only on research about teaching, about how children learn, but also about being professional in many things." For the IA team, although the vocabulary and the systematic research process was of some benefit to the team members, the greater reward was in discovering greater confidence in their own abilities to solve problems and to engage their peers in a similar process. Major growth for the TC team was evident in research skills and curriculum skills, while the SD team showed the most growth in research skills.

In conclusion, the outcomes of such collaborative efforts between universities and schools can be of value in helping to develop agendas for college teacher education programs, staff development programs in school districts, and university research on the staff development of all educators. This study demonstrated the power of collaborative research and development as a staff development strategy in several different contexts. Now well over a dozen teams have adopted the idea, developed guidelines, and established the essential conditions. IR&DS has gained an important place among the models of staff development.

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THE SCHENLEY HIGH SCHOOL TEACHER CENTER

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The Schenley High School Teacher Center opened its doors in August 1983, a time when major educational commissions were calling attention to problems in the nation's public secondary schools. Though planning for the program had begun nearly two years earlier, Schenley can be viewed in many ways as an example of what school districts might do to improve secondary education. In fact, the Teacher Center is the only program of its type in the nation, a unique teacher revitalization program addressing the specific issue of "quality" in secondary schools. In addition to serving students as a comprehensive high school, the center provides secondary teachers with an opportunity to identify problems and search for solutions, to bridge the gap between schools and the working world, and to conduct independent research in their field. It is a place where high school teachers have the opportunity to observe effective teaching in an actual classroom setting and to practice new techniques. It promotes excellence in teaching by integrating students, staff, and program in a staff development effort equaled by few if any public school districts.

The Students

Most of the students are drawn from a predetermined feeder pattern for the high school. They have spent their middle school years at Frick, Arsenal, or Milliones Middle School. They are a diverse group numbering approximately 850, representative of urban school populations nationwide. The curriculum offered to them is the same as that of the other 10 high schools in the district.

In addition, other students are enrolled in one of the three magnet programs--Health Careers, International Studies and High Technology--that are open to all students in the city. The curriculum for these programs is highly specialized and innovative. Regardless of their curriculum, all students can take advantage of the school's new computer center.

The Staff

The staff of the Schenley High School Teacher Center is among the best in the school district. All are fully certified secondary teachers who applied to teach at the center. A prerequisite is a willingness to make the commitment to the overall objectives of the Teacher Center.

The entire staff have received intensive training and practice in the principles of effective instruction. Some resident teachers teach a maximum of four classes and in the remaining time may chair a cluster of departments, teach a series of seminars on adolescent development, coach an interscholastic sports team, orient teachers coming to the center, monitor research activities of peers, or model exemplary teaching, in addition to other general duties.

One third of the resident staff teach three classes and serve as clinical resident teachers. Clinical resident teachers work with two visiting teachers, using a clinical model based on accepted principles of effective instruction. In this 8-week phase of the training, the visiting teachers assist in developing lesson plans, observe effective teaching, and have an opportunity to practice the model. The clinical teachers then provide them with structured feedback.

The on-site center staff are assisted by a cadre of 48 replacement teachers, trained professionals whose teaching specialities represent the broad range of subjects offered at the secondary level. In the home schools, they replace teachers who are taking part in the Teacher Center program as visiting teachers.

Administration of the Schenley High School Teacher Center is a shared responsibility. The principal is responsible for all programs affecting the students and staff within the framework of the high school. The Teacher Center director is responsible for designing and implementing the program for visiting teachers.

The Staff Development Program

The Teacher Center program for visiting teachers combines the skills and talents of the administration, the resident staff, the district's staff development team, and other staff. Community, business, and industry provide additional resources. The program takes part in three phases: orientation, direct involvement, and follow-through.

Orientation. A center teacher meets with an incoming visiting teacher and provides an overview of the eight-week program.

Direct Involvement. The visiting teacher attends the center and takes part in an individually tailored renewal plan as well as in the core program.

Follow-Through. The visiting teacher returns to his or her home school and works cooperatively with the principal, who serves as coach to the teacher in continued professional growth.

The goals of this three-phase program for each secondary teacher are to provide an intensive clinical teaching experience for secondary teachers, to provide a content area review and update, and to develop a better understanding of adolescent development and modern youth culture. These goals are addressed by core activities in which visiting teachers participate. In addition to the core activities, choice activities are selected by visiting teachers and included in their plan.

Core activities include:

Theory and practice of effective instructional strategies based on PRISM (Pittsburgh Research-Based Instructional Supervisory Model)

Seminars on adolescent development

Four content area modules:

  Articulation of content, K-12
  Questioning strategies
  Grouping for instruction
  Teacher-made tests

Guest lecturers from education, business, and industry are invited to speak throughout the eight weeks. In addition, open forums, which address a variety of topics of concern to educators, are scheduled.

Choice activities include:

Extended seminars on adolescent development

Content area sessions individually tailored to strengthen skills related to the teaching specialty

Enrichment programs that include:

  Computer literacy for educators
  Externships (visits to business, industry, or the community)
  Research projects

The program is structured to take place over the traditional seven-period school day.

While it can be predicted that in the near future other school districts may adopt a similar plan for teachers' renewal, the Pittsburgh Plan presently stands alone. Its innovativeness and ambitious approach is a signal both to the Pittsburgh community and the nation that Renaissance II in Pittsburgh does not stop in the corporate world. Renaissance II has also entered the school-house door.

DISQUIETUDE

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Teacher education is the preparation and development arm of the teaching profession. Professional schools of teacher education are most appropriately and advantageously housed on college and university campuses.

The profession of teaching advances from the experience of its practitioners and from the efforts of researchers in education and related disciplines. Research provides information about schools as institutions, teaching practice, teacher education, and the learning process.

There is no need here to document the slow progress of the teaching profession in developing a valid knowledge basis for practice or in establishing teacher education as the necessary prerequisite to effective teaching (Lortie, 1975; Smith, 1980). For a complex of reasons, the educational system has been inhospitable to professionalization, preferring to rely upon the personal qualities and conventional wisdom of its teachers.

Beginning in the 1960s and continuing to the present, there have been persistent if relatively modest efforts to study the educative process, schools, teaching practice, and teacher education. Progress has been sufficient to justify a belief in a solid if modest basis for a teacher education program based on research (Smith, B. O., 1980; Smith, D.C., 1983).

In the meantime the research thrust continues and the basis for a genuine profession grows.

Teacher education schools, though established long before other professional schools (normal schools, 1839), have been singularly ineffective in winning a respected place on the college or university campus or within the profession, the school system, or the society. On the campus, it has been exploited and demeaned and has had little or no chance to reach its potential or prove itself.

A Nation At Risk (National Commission on Excellence in Education, 1983) and the host of similar reports did not base their plea to improve the teaching profession and teacher education on the emerging evidence that a clinical profession of teaching was possible, but rather on the desire of governmental and work place authorities to impose quality control mechanisms on teachers and schools.

In this respect, the studies repeated the history of American education. Something within the societal and governmental situation seems to preclude the professionalization of teaching and the generation of professional conditions for teaching.

Those who pursue research on teaching and effective schools will be well advised to encourage colleagues who study educational policy to seek enlightenment on the nature of these barriers. They should be prepared for the possibility that they themselves may inadvertently be part of the problem.

After a lifetime of service, I have come to the reluctant and hesitant conclusion that the difficulties we have experienced in our efforts to develop a professional culture of teaching and to improve educational practice have their roots deep in the societal and educational system. The system is unlikely to embrace either the profession or its valid knowledge base. Instead it is likely to continue to frustrate professional efforts and to sustain a system that it can control and for which it can be accountable.

Institutional and Technical Sources of Organizational Structure

Meyer, Scott, and Deal (1980) report that

> most organizational structure is generally seen as arising from technical requirements for the coordination of work. In this paper, institutional sources of organizational structure are also considered: some organizations--in particular, educational ones--arise more out of environmental definitions than out of technical work coordination and control requirements. Institutional organizations, unlike technical ones, are tightly linked to the environment and loosely coupled to internal work activities and outputs. (Abstract)

According to the authors, the factory is an example of the technical type of organization, and the school is the best example of the institutional type: "the technical organization faces in towards its technical core and turns its back towards the environment; the institutional organization turns its back on the technical core in order to concentrate on conformity to its institutional environment" (p. 3).

The relevance of this construct for education, teaching, and research is clear. A relatively small proportion of education professionals are engaged in elaborating our technical core as a valid knowledge basis for practice, but the school system and perhaps even our profession and teacher education itself are attuned and responsive to the environment. The governance system is designed to keep it that way.

Another way to view the same phenomenon is in terms of primary institutions such as home, school, church, and community. These institutions are concerned with the preservation of values and the continuance of ways. Hence they are suspicious of and resistant to change. On the other hand, secondary institutions such as businesses, factories, the military, and professions such as medicine survive and thrive by promoting change, elaborating the technical core, and promoting its extension into societal use. It seems realistic to anticipate that schools will continue to be sensitive to public opinion, cautious about innovation, and responsive to negatively-oriented minorities. There will be no shortage of either critics or the motivation to oppose.

Professions and Power

Johnson (1981), a sociologist, holds that the trait or characteristics theory of professions is of little use. He holds that there is an inherent tension between the producer of professional services and the consumer or client of such services. The tensions are resolved in various ways, depending upon who has power and can exercise control. Johnson states that

> professionalism, then, becomes redefined as a peculiar type of occupational control rather than an expression of the inherent nature of particular occupations. A profession is not, then, an occupation, but a means of controlling an occupation. (p. 45)

In effect, the consumer can control, the producer can control, or a third party can mediate between the two. Thus, three types of control emerge: collegiate control, patronage, and mediation.

Collegiate control is control by the producer. In the traditional concept of profession, the professionals have the expertise needed by the client and they perform their services according to the standards of their profession. The client has little control.

Patronage is control by the consumer. In this situation a small, powerful unitary clientele such as a corporation makes use of professional services. In the middle ages, patrons supported artists and musicians, and were in a position to control them. In modern times, corporate accountants serve their patrons and follow the accounting practices adopted by their employers.

Mediation is control by a mediator--in this case, the state, which "attempts to remove from the producers or the consumer the authority to determine the content and subjects of practice" (p. 77). In its extreme form, "the state may attempt to ensure a desired distribution of occupational services through the medium of a state agency, which is the effective employer of all practitioners who have a statutory obligation to provide a given service" (p. 77).

Clearly, the teaching profession cannot be classified under Johnson's collegiate category of occupational control. It does, however, have a close fit with the patronage category at the school level and with the mediation category at the state and local levels. State education systems control all aspects of the teaching profession, including preparation, licensure and certification, professional practice and ethics, positions, and remuneration. They also control textbooks, curricula, and days and hours of service as well as relations between employers and employees. These bureaucracies are largely responsible for the institutional orientation and the accompanying neglect, however unintended, of the technical orientation needed by the profession and the schools. Administered, supervised, prescribed, evaluated and technically deficient teachers have little choice but to accept a resigned servitude and considerable occupational stress.

Questions

Given this situation, what hope does the education profession have under mediated and institutional conditions, of replacing folkways, conventional wisdom, and personal predispositions in teaching with professionally validated behaviors? Can even teacher education professors and students escape such limitations? Do colleges and schools of education reinforce and contribute to the very conditions that are deplored here? What can researchers in our profession do to reconstruct an environment that so subtly undermines the teaching profession, teacher education, and the research process itself?

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INTERACTION OF POLICY, RESEARCH, AND PRACTICE AT THE STATE LEVEL

Recent changes in teacher education have been occurring within the states. These changes include five-year programs, beginning teacher programs, and career ladder strategies. The roles of policy, practice, and research have varied as new programs and procedures have been generated. Four state-level examples of recently developing changes bring insights about how policy, research, and practice interact to inform and guide the development of teacher education programs.

Pertinent issues such as the following have been addressed by representatives of four states currently involved in innovative programs across the teacher education continuum: (1) What changes have occurred in teacher education? (2) How were the changes initiated and how did they evolve? and (3) How did policy, research, and practice impact the development and implementation of innovative teacher education practices?

California

POLICY
Richard P. Mesa, Superintendent
Milpitas Unified School District

RESEARCH
David D. Marsh, Associate Professor
University of Southern California

PRACTICE
Marsha Weil, Director, School Effectiveness Program
Santa Clara County Office of Education

California's plan for educational reform calls for improving the quality of preservice teacher education, attracting higher quality candidates into schools of education, preventing the loss of good teachers, and assessing the effectiveness of various teaching specialities. In "Policy Issues in California's Teacher Education Program: How They Interact with Research and Practice," Mesa looks at policy issues and research needs related to each of these objectives.

Marsh, in "Policy and Practice Issues in Preservice Teacher Education: The California Experience," discusses how preservice teacher education has affected the preparation and hiring of bilingual and minority teachers. He delineates several problems arising from attempts to ensure greater teacher preparedness through certification and describes one program in California that has begun to address these problems by accommodating critical teacher shortages in various subject areas.

"Research Use in Inservice and Preservice Education: A Case Study of California" by Weil is concerned with the interplay of research with policy making and practice, as well as with the use of research in inservice teacher education, primarily. In this paper, Weil gives an historical perspective on the development of inservice education in California and assesses the impact of the particular directions it has taken.

Florida

POLICY
Betty Fry, Consultant
Florida Department of Education

RESEARCH
David C. Smith, Dean
University of Florida

PRACTICE
Garfield W. Wilson, Director
Florida Department of Education

In "Using Research on Effective Teaching to Improve Teacher Education in Florida," Fry, Smith, and Wilson discuss the ramifications of Committee Substitute for Senate Bill 549 for Florida's teacher education programs. They discuss specific programs and strategies that Florida educators have developed and undertaken in an effort to successfully meet the challenge of more rigorous standards for teacher certification.

New Jersey

POLICY
Martin S. Friedman, Director
New Jersey Department of Higher Education

RESEARCH
Gary R. Galluzzo, Coordinator of Educational Research and Evaluation
Glassboro State College

PRACTICE
Nicholas M. Michelli, Dean
Montclair State College

From the point of view of a policymaker, Friedman gives an historical account of the processes leading to the refinement and adoption of "the alternate route" as part of the broader context of New Jersey policymaking on teacher education and certification. "Policies and Policymaking in New Jersey" also describes the newest initiatives and changes currently under consideration and their intended impact.

In the past year, New Jersey has attracted some measure of national attention because of a proposal from the Commissioner of Education to offer an "alternate route" to teacher certification that would not require any collegiate course work in the study of education. In "Accepting the Null: Studying New Jersey's Two-Tailed Coin," Galluzzo highlights the relationship between educational research and the policymaking process that led to the alternate route and to the new guidelines for teacher education in New Jersey.

"The Alternate Route," by Michelli, traces the establishment of the so-called "alternate route to certification" in New Jersey, a plan whose stated goals were to end emergency and provisional certification, raise the quality of teacher candidates, and ease the entry into teaching of uncertified individuals with professional experience in the subject area. Michelli describes the response of teacher education institutions to the plan and considers its potential impact on education.

Oregon

POLICY
Verne A. Duncan, State Superintendent
Oregon Department of Public Instruction

RESEARCH
H. Del Schalock, Research Professor
Oregon State System of Higher Education

PRACTICE
William H. Harris, Director of Teacher Education
University of Oregon

Oregon's approach to school improvement includes a goal-based, research-supported approach to schooling, upgrading of the selection and preparation of school personnel, mobilization of a professionwide support system for school improvement, and the collaboration of citizens and educators to bring about educational change. Duncan, Harris, and Shalock present a list of milestone events in Oregon's improvement of schooling, teacher preparation, and professional development in "Linking Professional Development to Instructional Programs: Oregon's Approach to School Improvement."

POLICY ISSUES IN CALIFORNIA'S TEACHER EDUCATION PROGRAM: HOW THEY INTERACT WITH RESEARCH AND PRACTICE

Richard P. Mesa
Milpitas Unified School District

Educational reform in California has benefited from the energy and vision of new State Superintendent of Public Instruction Bill Hoing. As his chief deputy for the first 18 months of his term, I have been in a unique position to contribute to and observe the development of the state's broad reform plan. A major element of the plan to improve the quality of education and of student achievement in the state is the goal to upgrade the quality of the teaching force. There are several dimensions to this goal. One is to upgrade the skills and preparation of teachers currently in service. A second is to recruit students of higher ability into teacher education programs. A third dimension--and the focus of this paper--is to improve the quality and change the emphasis of the preservice education of teachers.

Upgrading the quality of the teaching force, particularly at the preservice stage, is essential to the long-term success of California's plan for reform. The plan requires teachers to learn new skills and gain a much stronger grasp of subject matter than typical teachers now demonstrate. One objective that will require improvement in the form and content of teacher education is the implementation of a rigorous curriculum rich in content that demands use of higher-order thinking processes by both teachers and students. Many of us believe that most teachers will need to be trained not only to teach this curriculum but to teach it to much larger proportions of the students in the schools. Another objective is to design and implement a rigorous common-core curriculum and, at the same time, to reduce the achievement gap between minority/low-income students and middle class children.

These and other objectives raise questions not only about the form and content of teacher education as it now exists, but also about the new and more effective research-based teaching practices needed to achieve the objectives.

Several emerging major issues need to be worked out if reform efforts are to succeed. One issue is disagreement about the form and content of preservice teacher education, especially at the undergraduate level. Another issue has to do with where graduate level training and inservice education should take place--whether at universities or other institutions such as county offices, school districts, or regional centers. A third issue concerns how to attract higher quality candidates into schools of education and how to prevent the loss of good teachers. Finally, the trend toward increased specialization of teachers' roles (i.e., special education, bilingual education, and mentor teachers) calls for research to define and justify these specialities and to assess their actual effectiveness in meeting the needs of students they are supposed to serve. The resolution of these issues, of necessity, depends on the amount and quality of research available to illuminate the policy discussions and decisions that will guide change in preservice teacher education. This paper will consider to what extent each of these policy issues is guided by research, the problems inherent in using the available research, and the research needs related to each issue.

Current Research on Teacher Education

A number of critical problems have emerged as the California State Department of Education has tried to draw upon current research to guide the resolution of teacher education issues and to apply the research to policy development. One is that the research agendas of the major research institutions are not defined or influenced by the needs of the schools. Instead, they appear to represent the individual interests of the professors in the universities. To remedy this, Superintendent Hoing has moved to develop a research agenda based on the schools' needs that will subsequently be contracted out to universities or research laboratories. However, State Department of Education funds to support such research are not easy to come by. The process by which research issues are formulated in the legislature, the source of such financial support, is so highly vulnerable to tugs and pulls of interest groups that rational priorities or coherent plans for research have little chance for survival. The result is that there is very little research to guide policy development on the issues discussed here, even though most of those issues have been around a long time. Finally, research, even if available, often promises more than it can deliver when it is applied to complex and crucial questions. Research is often conflicting;

researchers take adversative positions on issues on which practitioners expect them to collaborate.

Preservice Teacher Education

There are two prevailing, conflicting points of view on the content and form of teacher education. Some believe that there is little content of value, very little science or technology of education to form a body of knowledge by which to prepare teachers. People in this camp believe that educationists take a meager amount of knowledge and blow it up into content for schools and departments of education far beyond the merits of its amount and quality. Proponents of this point of view conclude that the reason teachers are poorly prepared academically is that teacher candidates waste their college years in education courses instead of majoring in specific disciplines like science, mathematics, or English. This view is reinforced by the attitudes of contempt and disrespect most teachers and administrators have toward the typical education courses they took in college. This point of view has dominated policy governing the preparation of teachers for at least two decades in California. In fact, legislation in California restricts the amount of time students may spend in education courses.

The opposing point of view believes that teachers need undergraduate-level preparation in the various subjects they intend to teach. This point of view believes that there is a technology, a scientific basis to the art of teaching, as Nate Gage from Stanford University has described it. Support for this point of view has emerged from the teacher effectiveness research of Gage (1978), Gage and Berliner (1979), Rosenshine (1983), and others.

To guide its policies on staff development, the Riles administration that preceded Bill Hoing commissioned a large comprehensive study of staff development. While the study's focus was on inservice education, the authors, Bruce Joyce of the University of Oregon (Joyce & Weil, 1972) and Robert Bush, professor emeritus of Stanford University (personal communication, 1984), also studied the state of preservice education. However, to my knowledge, this study has not influenced the development of this administration's policies on preservice education. Neither has the teacher effectiveness research been called upon in the discussion of the issues, although some teaching practices correlate highly with student achievement, according to respected educator researchers like B. Othanel Smith of the University of South Florida (1980) and Nate Gage of Stanford University (1978). The state superintendent has formed a commission on teacher education composed of the deans of schools of education, key superintendents in the state, representative school board members, teachers, and lay persons. This group has met several times and appears to be moving toward the use of such research. However, the thrust of their most recent discussions has been directed more toward strategies for attracting and retaining teachers rather than toward how to educate them.

Graduate-Level Teacher Education

Those who place little value in school-of-education courses and preparation continue to persuade legislators and other policy makers that the amount of time spent in formal training in schools and departments of education should be reduced. There is much pressure to make teacher preparation more field based. Along with this view, there is strong support for having master teachers in the schools train teacher candidates. In California, mentor teachers are one of the centerpieces of the reform agenda. One of the designated functions of mentor teachers is to train teacher trainees and experienced teachers. Many practitioners and academics have serious doubts about the capability of colleges and universities to apply emerging research to the development of effective teaching practices. Though it is now fairly common place for school districts to train their staffs in Madeline Hunter's ideas, the practices of Stallings, or others, there is little evidence that college and university faculties have been willing to retrain themselves to teach these ideas and practices.

Though field-based preparation in California will be encouraged for the graduate year of preparation, the state leadership does appear to be aware of the implications of its reforms for preservice education and is working actively to shape preservice education so that teachers receive the preparation necessary to accomplish state goals. I think there are strong implications for undergraduate education, both in terms of content and pedagogy. Although the State Department of Education has not come out in favor of undergraduate reform, I think its goals and policies will increasingly lead to clearer definitions and increased undergraduate preparation for teachers so that they can teach the new curriculum to new clientele.

Raising the Quality of Teacher Candidates

Several studies show that the quality of teacher candidates is declining and is now of poorer quality than it has ever been. This fact raises a question about the standards and screens for qualifying teacher candidates as well as about the rigor of the teacher training education courses, especially when between 30% and 35% of teacher candidates who graduate from teacher training institutions cannot pass a relatively easy test of basic skills. Available research describes the nature and magnitude of the problem: that the most intellectually able leave teaching first, and that the least academically competent stay in teaching. However, very little research shows how to resolve the problem. The policy adopted by California to reverse the trend is based more on commonsense notions about what might work than on research. Some provisions are quite obvious and should have a positive effect. For example, beginning teacher salaries have been raised to levels more competitive with the private sector, loan forgiveness programs are offered to students who agree to teach for several years, and movement from industry to teaching is made easier by allowing people with science or mathematics backgrounds to teach as trainees under the tutelage of mentor teachers. Although common sense has been the main guide in development of policies and programs, the research that educated us to the gravity of the problem and its nature has given impetus to action and has suggested some solutions.

Problems With Specialization

The trend toward teacher specialization has created as many problems and raised as many issues as the specialties were designed to solve. The central issue is whether children in special programs under specialist teachers gain more learning than they would with regular teachers in regular classrooms. The available research is insufficient to make a good case for most of the specialties.

Numerous problems are caused by the specialties. Enormous amounts of money are directed to the support of such specialists and to support staff such as aides and administrators, reducing substantially the budgeted money available for all programs. Often specialists are scarce, and because districts do not have sufficient choices to select quality candidates, they take whoever is available. Because class sizes are frequently small and serve only students with certain needs, class sizes for regular teachers are often higher than they should be.

The academic progress of students working with specialists often cannot be discerned to benefit from the assistance of the specialists. The research on specialties is often of poor quality or does not support the specialty that has been derived from it. This criticism is especially true of special education.

The research justifying bilingual education was done years after bilingual education was installed, yet little of that research has been employed to guide practice in most school districts. Though specialist programs may be poorly supported by current research and need a rigorous evaluation of their effectiveness, these programs have powerful and vocal constituencies that protect them from the close analysis needed to make them or the resources they represent better serve the children of California.

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POLICY AND PRACTICE ISSUES IN PRESERVICE TEACHER EDUCATION: THE CALIFORNIA EXPERIENCE

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In the last two decades, the conception of teacher education in California has changed, and preservice policies and practices have been modified in response to the need for bilingual education, prospective teachers with better academic skills, and more teachers in critical subject matter areas. Progress has been gradual, and more research and policy development are needed to address the questions raised by initial attempts to meet these educational needs.

Conceptions of Preservice Teacher Education

Teacher education legislation in California reflected a different conception of teacher education during each of the last two decades. In the 1960s, the Fisher Credential saw teacher education as primarily a program for undergraduates majoring in education, with heavy emphasis on teacher education methods and foundation courses followed by a student teaching experience in the schools. It is important to remember that 60% of the teachers currently teaching in California were initially credentialed under the Fisher Bill. This conception of teacher education did not hold for all programs conducted during that decade. California probably had more Teacher Corps projects than any other state in the union, and there were also private foundation-sponsored innovative teacher education programs. However, masters degree programs that combined subject matter and education coursework were not offered in California institutions as much as in states with the Big Ten universities.

During the 1970s, a different conception of teacher education emerged in legislation known as the Ryan Credential. Here prospective teachers were seen as liberal arts majors who undertook a limited teacher education program as undergraduates. They were then required to undertake a fifth year under the assumption that they would be employed as beginning teachers while working on their fifth-year credential by taking courses in professional education and in their subject matter areas. The requirements for the fifth-year credential were quite open-ended so that teachers and universities could tailor programs to the needs of individual teachers.

In practice, nearly 70% of the teachers prepared under the Ryan Credential began their professional education during the fifth year. What was supposed to have been continuing advanced education for beginning teachers was, in fact, initial teacher preparation in most cases. Moreover, because of the flexibility built into the fifth-year program, few teachers had a rigorous and coherent continuing education program.

While the Ryan Credential is still in use, it has been modified in response to the need for bilingual teachers and teachers with improved academic skills.

The Preparation of Bilingual Teachers

Recent demographic trends have played a dramatic role in increasing the need for bilingual education. If one draws an imaginary horizontal line across California approximately halfway between Los Angeles and San Francisco, the majority of the entire population south of that line will be Hispanic by the year 1990. Within the Los Angeles school district alone, children attending the schools have 86 primary languages. In short, the multicultural dimension of schooling in California is a powerful reality.

The legislative response to the need for sufficient well-trained bilingual education teachers was to require a Bilingual Certificate of Competence (BCC) of all regular teachers who work in classrooms with a substantial percentage of limited English-speaking children. The BCC has three components: language facility, cultural understanding, and instructional strategies. Teachers unable to demonstrate competence in these areas have been allowed to continue teaching on a waiver provision. Each year, the deadline for terminating the waiver provision has been delayed.

For beginning teachers, the legislature established the Bilingual Emergency Credential for the preparation of elementary school bilingual education teachers. The emergency credential allows untrained teachers to begin teaching in bilingual classrooms while also acquiring their preservice teacher education. Candidates work as fully salaried first-year teachers after completing what is typically a brief, accelerated preservice workshop. They then take methods courses while working as teachers over the next several years. Some of the candidates have not completed a college degree prior to entering the program; only 90 units of college work are required in order to begin qualifying for the Bilingual Emergency Credential. In order to employ Bilingual Emergency Credential teachers, districts must certify that they have conducted a good-faith search for already credentialed teachers. Given the demand for bilingual education teachers in the state, not enough fully credentialed teachers have been available.

Programs preparing Bilingual Emergency Credential teachers have unusual characteristics. The programs, while university-based, are distinctly fragile: they operate on soft money available only when a sufficient number of trainees can be recruited. Consequently, it is not surprising that many of the programs are quite aggressive in acquiring prospective teachers. Because instructors in these programs are usually temporary staff who are not a part of the regular faculty, the programs tend to remain isolated from regular teacher training programs within the schools of education.

Academic Preparation of Teachers

The weak academic preparation of teachers has caused wide concern. Comparisons of those entering teaching now with those who entered 15 years ago show that current teacher trainees have lower SAT scores, lower college grade points, and weaker academic skills in reading and math. Current teachers are less qualified than before even when the comparison is adjusted for the overall downward trend in SAT scores for the entire group of graduating high school seniors.

In response to this concern, the California Legislature required that all beginning teachers in California pass a test of academic skills known as the C-BEST Exam. The C-BEST Exam assesses skills in reading, writing, computation, and logic.

The legislature mandated that the State Department of Education coordinate the development and administration of the exam rather than the Commission for Teacher Credentialing (CTC). This controversial arrangement was established because key members of the legislature perceived that the CTC was dominated by two interest groups resistant to the notion that teachers had weaknesses in academic skills: academic institutions and teacher organizations. Academic institutions were perceived to deny that such a problem existed or to insist that they should be the sole judge of the academic preparation of teachers. In the last one and a half years, the administration of the program has been shifted back to the Commission for Teacher Credentialing.

An initial contract was given to the Educational Testing Service (ETS) to develop and administer the exam. The exam was developed using standardized test construction principles and then normed with 13,000 regular teachers in California. A senior member of the Commission for Teacher Credentialing estimates that approximately 30% of the teachers taking the exam would not pass if current cutoff scores were used. ETS now has a second contract to revise test items, administer the test, and disseminate scores in the light of issues raised during initial use of the C-BEST Exam. The test was initially required of all beginning teachers in California as well as substitute teachers who wanted to serve in California school districts. Several issues or trends emerged from the early administration of the test. These include:

1. The percentage of minority teachers passing the exam. Initially, 69% of all first-time test takers passed the C-BEST Exam. However, only 25% to 30% of Black and Hispanic teacher candidates were able to pass the test. The test is one of the reasons fewer minority teachers have entered teaching in California in the last few years, and questions have been raised about possible test bias.

2. The percentage of substitute teachers passing the exam. Because a low percentage of substitute teachers passed the exam, a dramatically smaller pool of substitute teachers has been available to school districts in California.

3. The percentage of Emergency Bilingual Credential trainees passing the exam. The low percentage of Emergency Bilingual Credential trainees passing the exam has led to the curtailment of enrollments in these programs.

4. Reporting aggregate test results. The newspapers reported aggregate test scores for teacher education institutions. As a result of this practice, the results of substitute teachers were confused with the results of recent graduates of the institution, and blame for the "poor performance" of graduates became an emotional issue that led to unfair institutional comparisons and accusations.

5. Reporting individual test results. For several reasons, the results of candidates' performances on the C-BEST were often not available until they were applying for a job. This practice led to considerable uncertainty, both for the teacher and the school district wanting to hire the teacher, about whether the person would be eligible to continue teaching.

6. Using test scores as employment information. The legislature has established policy about the dissemination of test-score information. The CTC can provide individuals who take the test with their specific test scores but can only inform interested school districts whether the individual passed the exam or not. Several school districts have begun to require job applicants to submit their C-BEST scores on their job

application. There is a question about whether this practice is legally permissible.

These early problems have led to several modifications in the use of the C-BEST Exam. The requirement that substitute teachers take the exam has been dropped. All prospective teachers must take but not necessarily pass the C-BEST Exam prior to entering their teacher training program. The CTC has launched a set of studies into issues such as (1) possible test bias against candidates of various ethnic groups, (2) the appropriateness of the content and items on the exam, and (3) the probability that those candidates who did not pass the exam on their first try may be able to pass the exam on subsequent attempts. Finally, the CTC is initiating technical assistance to help institutions of higher education provide better remedial help to candidates who did not pass the C-BEST Exam prior to entering their teacher training program.

Preparation of Teachers in Critical Subject Areas

Recent comprehensive legislation authorizes school districts in California to provide preservice teacher education, under certain conditions, in a program known as the California Teacher Trainee Program. These district-based training programs may be initiated for secondary school teachers in subject matter areas which the local school board can demonstrate have a critical shortage of teachers.

Before entering such a program, candidates must have a bachelor's degree with a major or minor in the subject matter area they will teach, and must have passed the C-BEST Exam. Prior to completing their training, candidates must pass a state-approved subject matter exam, usually the relevant NTE exam, and be certified for good character.

School districts have several obligations in operating these programs. First, the school board must approve coursework required of candidates and insure that each candidate has a professional development plan. Professional development plans are designed to assist candidates in performing successfully in the local school setting. Second, candidates must be evaluated yearly for their progress in becoming successful teachers. Finally, the school district must consult with nearby institutions of higher education before finalizing plans for the district-based training program. Consulting, however, does not necessarily mean that ongoing collaboration is required.

The Los Angeles Unified School District has the largest and most active program in the state, with approximately 90% of the statewide total of trainees.

Other participating districts include small rural districts that have recruited experienced personnel from industry. It was assumed that these candidates would not be willing to travel to distant locations to complete their teacher training, especially if travel entails a substantial loss of income. The rural districts also feared that the candidates would not be likely to return to them after completing a regular teacher training program.

The Los Angeles program was launched in June 1984 with the intent to prepare English, mathematics, and science teachers for secondary schools. Candidates were hired as first-year teachers at a beginning salary of approximately $19,000 per year. The district was able to recruit 160 candidates who could pass the C-BEST Exam prior to actually entering the program.

The Office of Staff Development administers the program, provides extensive inservice teacher and administrator training, and is especially strong in organizational development. The program features:

1. Extensive collaboration between the members of the Office of Staff Development, experienced teachers, and district subject-matter experts.
2. Early induction into the classroom, including observation of experienced teachers.
3. Use of inservice training packages to teach instructional strategies and classroom management.
4. Extensive on-site assistance to teachers provided by mentor teachers, administrators, and others.
5. Weekly after-school seminars in individual problem solving and continued training and discussion around issues related to teaching.

Because the program is new and funds supporting the program are limited, these features are still being developed.

Implications for Preservice Policy and Research

These modifications to the Ryan conception of preservice teacher education have a number of implications for policy and research. The bilingual teacher preparation program raises policy problems regarding how to prepare teachers in stable and effective programs, especially when funding and structural constraints on schools of education make it so difficult for the schools to hire new regular faculty. Substantial research problems remain concerning the appropriate processes and probable results of various approaches to bilingual teacher training.

The C-BEST Exam raises policy questions about how to improve the academic quality of prospective teachers so that extensive remediation is no longer necessary. There is also the need to continue development of the test and its administration. Moreover, the test raises the more general question of how and by whom teachers should be certified as competent. Research is needed to detect possible bias in the test and to study the relationship between the test and teacher effectiveness.

The preparation of preservice teachers also raises a number of policy and research questions. Teacher education provided by districts is site-based apprenticeship. The advantages and disadvantages of this approach need full examination so that we can see how best to build a district's ability to provide training and site-based developmental assistance, how to fuse the best university resources with district operations, and how to resolve problems in ways other than on narrow political grounds. Research is needed to explore the dynamics of district-based teacher preparation as well as the short- and long-term effects of such programs.

RESEARCH USE IN INSERVICE AND PRESERVICE EDUCATION: A CASE STUDY OF CALIFORNIA

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This paper is concerned with the use of research in teacher education--primarily inservice education--in California. I will describe the interplay of research with policymaking and practice during the development of inservice education.

To understand what is happening in California, it is necessary to know the context of teacher education research and the alternative general approaches to reform being tried in this country. Some would say that it is only in the past 10 years or less that we have had any research results about teaching worth passing on. Our knowledge about teacher education is even less and more recent. Given that the diffusion of educational innovations used to take about 20 years, I believe it is more instructive to concentrate on the conditions that promote or inhibit research use rather than on the extent of research use per se. Also, California has taken a different approach than states such as Florida and New Jersey. The occurrences in California reflect a general approach to reform.

Imagine a reform continuum with New Jersey on one end and Florida on the other. Florida, by mandating particular teacher competencies, has taken a tightly-coupled, comprehensive, and substantive approach to reform. New Jersey, on the other hand, has given school districts the right to hire new teachers who have not been through teacher training institutions. One might describe this approach as very loosely coupled with no stance on the substance of teacher education. I see California as falling somewhere in the middle. On the whole, over the last 10 years, the state's influence on teacher education has come from two sources, school improvement programs and teacher evaluation procedures. In both of these matters, the state specified a process, but districts and schools had much latitude in how this process was applied and in the content toward which improvement efforts were directed. Unlike Florida, California's efforts have not been comprehensive, centralized, nor content-based. But neither have they been as laissez-faire as the current approach taken by New Jersey.

The Inservice Story

Currently, research in California on teaching, and to a lesser extent, on teacher education finds its greatest use in inservice education. Four strands of research are particularly prominent: the Beginning Teacher Evaluation Study (BTES) findings on the allocation and use of instructional time, direct instruction, teacher expectations, and school effectiveness. Two of these are embodied in popular inservice training programs, Teacher Expectations and Student Achievement (TESA) and Madeline Hunter's Clinical Teaching. Research on time has achieved prominence through discussion in practitioner journals and conferences and through recent legislation, SB 813. It would not be an exaggeration to say that nearly all the school districts in urban or suburban areas have participated to some degree in one or more of these four research strands during the past five years.

Going into the more rural areas of the state, one generally finds a somewhat lesser impact from research and staff development. Typically, except for bellwether districts, staff development phenomena such as popular training programs make their appearance in rural areas two to four years after they are initiated in more sophisticated urban and suburban areas. How, then, did this research become prominent in inservice education in California, and what impact is it having? The short answer to the first part of the question is that the research became prominent through a combination of policy, intellectual progress, supply and demand, and geographical accident. In the next few pages, I describe how these forces developed and interacted with each other. I'll reserve my comments on impact until the end of the description.

In California, inservice education has traditionally been a function of district offices or of individuals participating on their own in professional conferences or courses. Organized functions have usually consisted of periodic inservice days during which all district staff were treated to a prominent speaker (or a not-so-prominent speaker on a prominent topic) and then returned to their schools to continue their duties much the same as before. The other form of inservice has been committees of teachers working with district office staff on curriculum projects.

Beginning in the early 1970s, the state's Early Childhood Education (ECE) program, called the School Improvement Program (SIP), dramatically changed the existing patterns of inservice education. ECE, a school improvement effort aimed at the primary grades, was stimulated by research on the impact of early education programs. ECE and SIP have made several changes in inservice education. First, these programs shifted responsibility for inservice from the districts to the schools. The term school-based training can refer to the governance and control of training as well as the location and organization of training. Second, by providing time for inservice, ECE and SIP provided the logistical conditions for more sustained training and follow-up, that is, for socializing administrators and teachers to a new concept of inservice education. During five to eight SIP days, a school would close to devote itself to training activities that give faculties the tools for implementing their plans. Third, the criteria for ECE and SIP plans required schools to commit themselves to particular student outcomes. Thus, at least on paper, inservice activities were now linked to particular educational outcomes. Fourth, these and other state programs created an enormous demand for relevant staff development that would get results. Finally, they prompted large numbers of people, particularly school administrators and district and county office personnel, to become acquainted with the world of inservice education and available inservice programs.

From the early years of ECE and SIP into the late 1970s, much of the emphasis and enthusiasm was on the shift in governance, i.e., local decision making and control and community participation. However, by the late 1970s the general climate of public criticism of the schools and the emphasis on accountability changed the concern from control to results, from how to go about change to what to change. Enter research. By coincidence, the results of teacher effectiveness research and school effectiveness research were making their way into both scholarly and practitioner journals. Some researchers were spending as much time speaking to school personnel as they were writing and speaking at conferences of the American Educational Research Association.

Obviously, the resocialization is working both ways. During the past five years it has become more and more common to find practitioners, especially central office staff and administrators, who are well versed in research. Last year, the program I direct on school effectiveness sponsored a research series, seven sessions of three hours each, on school effectiveness research. It was not a hands-on, participation-oriented experience. Nearly 200 school people came to every session to hear about research. The point to be made here is that particular events, state policy and programs, and public concern about the quality of education have created both a receptivity to and demand for research, thus breaking down some of the traditional animosity between researchers and practitioners. Coincidentally, researchers, perhaps for the first time, have had something important to offer practitioners. The conditions have been created and the stage has been set for research to impact the inservice experiences of teachers.

And it has. This, I believe, is where geography comes into play. Once a need was created, research found its way into the inservice experiences of teachers because particular training programs became popular--Madeline Hunter's Clinical Teaching, Mastery Learning, Equal Opportunity in the Classroom, and now TESA. In some cases, the state, through dissemination support, conferences, and regional structures like teacher centers, has aided in the diffusion of research-based training and created more demand for products to disseminate. Ironically, most of the major research-based training programs have originated in California. I don't know if other areas of the country have different programs. My impression is that there are a limited number of programs; it takes a while for programs to move across the country to places other than the point of origin. Program dissemination (as opposed to the dissemination of research findings) appears to depend greatly on geographical proximity and personal popularity. The demand for research-based staff development also appears to outrun the supply very quickly. Quite simply, it takes much longer to develop productive lines of research and to convert research findings into training than it does to train and implement. There is much more to understand about the dissemination of research to practitioners than we currently do. Efficiencies and influences must be harnessed if we want greater use of research in teacher education.

ECE and SIP have also changed the role of the intermediate agencies in inservice education. Many years ago, the state established regional agencies known as county offices of education to serve the districts in each county. Their function under the State Education Code was primarily to provide financial support. Until ECE and SIP, most county offices did not play much of a role in inservice education. Today, responding to the inservice needs addressed by SIP and other state school improvement efforts, many county offices are taking the lead in following research, disseminating important findings to district office personnel and school administrators, and offering research-based inservice training. A few of the largest county offices are responsible for the adaptation of research findings to training programs, as in the case of TESA.

The content of research is also having an impact on the nature of inservice training. Teacher effectiveness research is more behaviorally oriented than past research or staff development. The essence of this research is the identification of behaviors associated with greater impact on student outcomes. Consequently it is yielding a different type of inservice content and training design. Recent research, particularly school effectiveness research and studies on instructional time, is extending staff development content to include changes in school policies and practices. Thus, current research-based inservice is not only assisting teachers and administrators to become more skillful as individual practitioners but also helping them redesign school-level policies, programs, and practices so that they are more supportive of individual instructional strengths.

The recent history of inservice education in California shows a shift from individual-based to school-based inservice, from folk wisdom to a research base, from information to behavior, from a focus on curriculum to a focus on instruction and school-level policies. Faculties are becoming responsible not only for improving their own behavior in empirically sound ways but also for improving the school as an educational organization in empirically sound ways. New knowledge and skills are increasing their individual effectiveness as well as their power to demand that policy and practice be shaped in ways that better promote student outcomes. I see school faculties making demands on their principals and principals making demands on their superintendent. Research has given superintendents and principals the guidelines and the confidence to assume firmer leadership. I believe Peters and Waterman call this situation "loose-tight" in _In Search of Excellence_ (1984).

In the past year, new state legislation and programs have come along that build upon and therefore reinforce recent research. Although, from a policy perspective, the use of research was once a function of school improvement funding and public concern, it is now also a function of teacher evaluation and administrator certification.

Earlier I promised to do two things--to give a historical perspective on the development of inservice education in California and to assess the impact of the particular directions it has taken. Now I will comment briefly on the impact of these developments. I shared this paper with a colleague who has participated with me in many staff development efforts. He commented, "I like the paper. It seems like an accurate account, but you were just trying to describe the ideal, weren't you?" Jack was perceptive and correct. I have just presented a macrolevel description of the forces for change in the use of research. In schools and in individual classrooms, however, there are many slippages in the way training occurs and the way research is supposedly put into practice. The microlevel is less than perfect. As a result, we will not see much of the potential results that the new practices can offer. But describing these slippage points and their corrective treatments is a topic for another paper. This paper addresses only the assessment of impact at the macrolevel.

I believe staff development is a more integral part of the professional culture and of the school culture than it used to be. Due to the school improvement programs, there has been a shift to school-based staff development from individual-based staff development. At the same time, however, district offices are becoming more proactive in guiding and providing school-based staff development. Thus, there is more joint district-school collaboration for staff development. Sometimes, this collaboration is in partnership with a regional agency such as a county office, which offers staff development service. In general, there is less reliance on individual consultants who come to districts or schools for one or two visits. There is greater receptivity, even demand, for research from practitioners. I believe some of the wall between researchers and practitioners is breaking down. There is a large cadre of administrators and teachers who are knowledgeable about research, and there are growing numbers of indigenous staff developers who can effectively train other teachers in various research-based staff development programs. As the state's new mentor teacher program becomes fully implemented, this cadre will be larger and more institutionalized. Finally, research has changed the content of staff-development programs; they are more behavioral and also more oriented to school-level policies and practices.

The Preservice Story

In sharp contrast to the inservice story, the use of research in preservice teacher education has not changed. Except for isolated preservice educators or unusual programs, research is conveyed as knowledge communicated through updated educational psychology textbooks or methods textbooks. Little research finds its way meaningfully into the professional lives and habits of preservice teachers.

The causes for this situation are rooted, I believe, in ingrained institutional problems of a structural nature. For example, preservice education is not organized as professional training, in spite of course labels such as methods and student teaching. In most situations, content is still delivered in much the same way as it is in other college courses, and the goals of the courses are still informational, not behavioral. On the whole, professors do not conduct themselves as trainers but as knowledge disseminators. Thus, one fundamental obstacle to research use in preservice education is a lack of understanding of the distinction between education and training. In addition, most teacher educators in California are not knowledge producers sympathetic to research. By legislation, California has a multilevel system of higher education that specifically excludes teacher education institutions from research production.

The structural problems of making student teaching a carefully guided training experience are well known. For example, one college instructor may have responsibility to visit 30 students in a semester. These problems are compounded by the information-dissemination orientation, as opposed to a clinical orientation, of most college instructors. On the whole, trainers who use the research base discussed earlier come from the world of inservice personnel. In contrast to once-a-week classes of three hours, they organize training sessions in workshops of one or more days.

The analysis of research use in preservice education is no less complex than that of inservice. However, in terms of instructive lessons, the preservice story in California has much less to offer than the inservice picture. Only in the past year has the chancellor's office decided to revamp teacher education in the state college system. Identifying the improvement of teacher education as among the highest priorities, the office recommended alterations in admission and exit requirements, in the depth and breadth of subject requirements, and in knowledge about instruction in multicultural settings. More profound perhaps are the recommended changes resulting from system action rather than individual campus responses--for example, changes in the work load calculations for student teaching supervision. Finally, an interesting initiative that may have impact on research use in preservice is the initiation of a symposium to achieve a common understanding about the body of knowledge and skills that should be included in the professional education curriculum.

What will happen remains to be seen. However, like the inservice scenario, research will not be used effectively in preservice programs without changes in policy and structural institutional reforms. In addition, much remains to be clarified about the concept of the teacher educator as well as the teacher. Distinctions between professor and trainer need to be better understood, and roles clarified. Finally, in terms of research use, the worlds of preservice and inservice need to be brought much closer together. The new teacher educators as trainers will need different preparation than they receive today. At least some of their experience should duplicate that of today's inservice staff developers located in schools, district offices, and county offices.

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USING RESEARCH ON EFFECTIVE TEACHING TO IMPROVE TEACHER EDUCATION IN FLORIDA

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The roots of much of the activity of Florida and perhaps in the southeast portions of the United States as well may be found in Committee Substitute for Senate Bill 549, which was passed by the Florida Legislature in 1978. That action of the legislature called for an acceptable score on a standardized test for college admission to qualify students for entrance into a college of education, successful completion of a certification examination to qualify teacher candidates for initial certification, and completion of a year-long internship by beginning teachers. The legislation was implemented over a five-year period through the development of State Board Rule, the vehicle in Florida for translating policy into administrative action. In response to the need for better teacher education emphasized by this legislation, Florida universities have been revising their teacher preparation programs. An example is the University of Florida's PROTEACH, a five-year program.

To satisfy the requirement of achieving a satisfactory score on a nationally normed test for college entrance as a condition for admission to a college of education, individuals seeking admission to a teacher preparation program in Florida must present a minimum score of 835 on the SAT or 17 on the ACT. Each of those scores represents the 40th percentile on the respective examination. Each institution, also by State Board Rule and consistent with law, may admit 10% of its students each year who do not possess a satisfactory score on the examination but who appear in other ways to be desirable candidates for teaching. That provision is intended to serve university students who may be disadvantaged by the test.

To satisfy the call for competency testing as a means of assuring that certified teachers possess adequate mastery of the basic skills and an acceptable level of professional knowledge, the Florida Teacher Certification Examination was created. By State Board Rule, the examination includes four sub-tests in reading, writing, mathematics, and professional knowledge. Since this examination has been implemented, 15% of the individuals taking the examination have not acquired a passing score.

State Board Rule has developed the Florida Beginning Teacher Program (FBTP) to satisfy the legislative requirement for a year-long internship. The program provides a base of support for beginning teachers during the induction phase of their career and requires that beginning teachers demonstrate an acceptable level of professional performance in the classroom on the Florida Performance Measurement System (FPMS) as a condition for a regular certificate.

The Florida Beginning Teacher Program serves as an example of how state policy and research on teaching can influence practice. Policy for the year-long induction program was established by law; teacher effectiveness research influenced the development of the State Board Rule that prescribes the manner by which the law will be implemented; and the resulting program has been implemented in all school districts in the state. A better teacher education program was made possible by a coalition of university, school district, and department of education personnel that planned, developed, and implemented the Florida Beginning Teacher Program.

In the FBTP, each beginning teacher is assigned a support team consisting of three individuals: a building-level administrator, usually the beginning teacher's principal; a peer teacher who teaches at the same level and subject and preferably in the same building and who has received special training to serve as a peer teacher; and a third educator who may be another peer teacher, a university-based teacher educator, or another administrator. The support team is responsible for assisting the beginning teacher during the induction period and documenting the level of professional practice exhibited by the end of this period.

Early in the year, the performance of each beginning teacher is assessed with the summative instrument of the Florida Performance Measurement System (FPMS), a comprehensive program for measuring and developing teacher performance. Teaching skills that appear in need of development are diagnosed through the use of formative observation instruments, and a professional development plan is formulated and carried out by the support team and the beginning teacher.

Near the end of the year, a summative evaluation is conducted. Records of observations, diagnoses, prescriptions, and documentation of inservice activities kept in the beginning teacher's portfolio are examined for the purpose of determining whether the essential teaching competencies adopted in State Board Rule have been demonstrated satisfactorily and the beginning teacher is to be recommended for regular certification. Together, the FBTP and the FPMS constitute a developmental, competency-based approach to the induction of new teachers.

The Florida Performance Measurement System is a clear example of the application of research to policy formulation and practice. The FPMS was developed following an extensive review of the product-process research reported in the literature on effective teaching. Key components of the system include a research-validated knowledge base on effective teaching, research-based performance measurement instruments, an observer training program delivered by certified trainers, and multimedia learning packages for teacher development. The following criteria were applied to the review and evaluation of relevant studies:

1. The studies had to be quantitative in nature.
2. The studies had to yield results that were statistically significant.
3. The studies had to have been published in a refereed journal, presented at a meeting of a learned society, commissioned by the National Institute of Education, or accepted as a doctoral dissertation at a major institution.

The research on planning required an exception to these criteria, since virtually no product-process or experimental research has yet been conducted in this domain of teacher performance. Advocacy articles were not included in the review of literature for any area of performance.

Following the review of literature, the research findings were organized into six domains of classroom performance.

1.0 Planning
2.0 Management of Student Conduct
3.0 Instructional Organization and Development
4.0 Presentation of Subject Matter
5.0 Communication: Verbal and Nonverbal
6.0 Testing: Student Preparation, Administration, and Feedback

Within each domain, research findings are organized under concepts, indicators, and principles of effective teaching. Concepts represent categories of teacher performance; indicators provide specific instances of performance related to each concept; and principles are statements of the conditions that the teacher's performance must meet in order for specified ends to be achieved, such as increased learning or improved conduct. Literature supporting each concept, indicator, and principle is summarized in the domain, and extensions or exceptions to the findings are identified.

Teacher performance is measured in the FPMS through the use of formative, summative, and special-fields data collection instruments. The summative instrument has undergone rigorous testing for validity and reliability, showing exceptionally high coefficients for interrater agreement, stability, and discriminant reliability. A norming study conducted in 1983 included over 2,300 observations in a variety of teaching contexts. Two norm groups (K-5 teachers and secondary teachers) emerged from the analysis of data. Scoring procedures developed in the study make it impossible to establish performance standards for particular groups of teachers. Current development efforts include a predictive validity study of the summative instrument, the completion of domains on conferencing and consultation, and a review of the literature to identify teacher behaviors that promote higher levels of student thinking.

Training professional personnel to apply the FPMS has been an integral element of the Florida Beginning Teacher Program. A statewide cadre of certified trainers provides training in the use of the FPMS to administrators, peer teachers, college faculty, and other educators. Training for observers emphasizes knowledge of the research base and analysis of teaching through use of video tapes. A cognitive examination and an observer reliability test are administered at the completion of training.

During the period that paralleled the development of the FBTP and the FPMS, a number of universities as well as schools recognized the implications of the policies adopted by the state for practice. During this period, the University of Florida developed and implemented PROTEACH, a five-year extended preservice teacher preparation program culminating in the acquisition of a master's degree and recommendation for certification. PROTEACH is a set of three programs designed to prepare elementary teachers, secondary teachers, and special education teachers.

A number of factors contributed to the impetus to design an extended preservice teacher preparation program. One consideration was that increases in salary and social esteem have followed, and not preceded, increases in professional preparation. There was and continues to be widespread disenchantment with teachers and the manner in which they are prepared. It was recognized that fundamental change in teacher education has not taken place in 50 years and that it is currently insufficient in scope. We believed that the demands placed on teachers in the twenty-first century will require better-prepared teachers. Those individuals who have entered the teaching force since 1983 will spend the majority of their careers teaching in the twenty-first century. We recognized that teaching is more difficult and complex than it was 50 years ago.

It was further recognized that a teacher with a bachelors degree today does not represent an educated person in society as teachers did in the past. It was concluded that much of the recent research on teaching and learning, especially the process-product research, reflects information essential for effective beginning teachers. We also concluded that advances in nearly all fields require that teachers be more fully prepared in their teaching fields.

Each of the three programs has special requirements. The program for the preparation of elementary teachers will have expanded requirements for study outside the College of Education. Students must take from 42 to 54 hours outside education beyond their 39-hour general education requirement. Within that requirement, students preparing to become elementary teachers must take at least two laboratory science courses, one in the physical sciences and one in the biological sciences. They must also take a course in statistics in the Statistics Department to gain the background necessary to master the content of the tests and measurement course. The program for the preparation of secondary teachers will require that the undergraduate degree be earned in the College of Liberal Arts and Sciences in a field represented in that college, and that students take two years of study in a foreign language. The program for the preparation of special education teachers will also have expanded requirements for study in the liberal arts and sciences, and graduates from the program will be able to meet certification requirements in two fields of special education.

The programs have several aspects in common. There is a common emphasis on research, especially the research on which the Florida Performance Measurement System is based. The faculty spent a great period of time, nearly a year, reviewing the generic knowledge base appropriate to beginning teachers. The product of that review was a series of task force reports summarizing the most current research on the general knowledge and behaviors needed by teachers.

Each of the programs places emphasis on study in the supporting areas in the various teaching fields in arts and sciences. We appreciate the support and assistance that we have received from the College of Arts and Sciences. The debate of subject matter versus methodology is old, worn, and tired. It is not a question of either/or, it is a question of what constitutes a necessary and sufficient condition in terms of preparation to practice.

Each of the programs in PROTEACH also has a pre-education component that provides important background information for study in education (urban sociology, the family, and cultural anthropology). A course in micro-computer applications to education is included in all programs.

While it is clear that there is no single effective model for preservice teacher preparation programs, it is also apparent that the maintenance of the status quo is not acceptable. Colleges of education must rapidly and decisively design and implement teacher education that adequately addresses the needs and expectations of the twenty-first century.

POLICIES AND POLICYMAKING IN NEW JERSEY

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It is the intent of this paper to describe the processes leading to the refinement and adoption of the "alternate route" as part of the broader context of New Jersey policymaking on teacher education and certification. From the point of view of a state department policymaker, the paper will give an historical account of the last seven years of policymaking by the legislature, the state departments and boards of education, and the teacher education community and will describe the newest initiatives and changes currently under consideration and their intended impact. The state policies regarding teacher education and certification will be examined for their meaning, intent, rationale, and consistency. The procedures for the development and implementation of these policies will also be examined.

In 1966, the Department and the Board of Higher Education were established. The Department of Higher Education was carved out of the Department of Education, giving New Jersey two independent departments. The Department of Higher Education was given authority over all postsecondary institutions, not just the public sector (with a few exceptions in the independent sector). The Chancellor of the Department of Higher Education and the Commissioner of the Department of Education sit as equals on the governor's cabinet and have overlapping authority in the area of teacher education.

In 1977, T. Edward Hollander became the second chancellor. He brought with him a strong professional interest in teacher education. It has been said that no area of the curriculum interested him more than teacher education.

In 1978, the state legislature appointed a Commission to Study Teacher Preparation Programs in New Jersey Colleges. The Commission issued a report three years later (1981), the first sentence of which is, "The Commission to Study Teacher Preparation Programs was created because of dissatisfaction with the quality and scope of the programs for the education of teachers in this state and the requirements for licensing." The report recommended 45 changes. One was to replace New Jersey's lifetime permanent certificate with a two-tiered system of provisional and permanent certification. The lifetime certificate, which persists to this day, has no provisions for renewal or continuing education. The report also recommended changes in the collegiate teacher education curricula and the state's program evaluation procedures.

When the report was issued in 1981, the legislature showed little interest in acting on it. The Commissioner of Education at that time also had little interest in the report's analysis and recommendations, even though it was widely believed that the Department of Education poorly conducted the collegiate program approval process, and New Jersey was almost alone in the nation in retaining a single lifetime certificate.

The Chancellor of Higher Education then appointed a Blue Ribbon Panel on Teacher Education to review the legislatively appointed commission's report (1981). The panel, unlike the commission, was composed of professional educators, including Ralph Tyler, Fred McDonald, Ivar Berg, Frank Farley, and Thomas Green. The Blue Ribbon Panel endorsed the analysis and recommendations of the commission and, by so doing, helped keep the recommendations on the policy agenda in the face of the indifference they had received.

The Department of Higher Education attempted to get control over all aspects of teacher licensure, but it was not supported by the higher education community, and its attempt failed in the legislature.

In February 1982, the State Board of Higher Education, acting on the recommendation of the Chancellor, adopted new regulations for collegiate teacher preparation programs, based upon the commission's recommendations. The regulations, which applied only to the public institutions, contained these essential elements:

1. In the area of curriculum, the regulations called for approximately 60 credits of general education consisting of the arts, the humanities, mathematics, science, the social sciences, and technology. In addition, they required 18 credits of study in the social and behavioral sciences related to teaching. An academic major outside of education was required of all teacher education students (excluding home economics, business, physical education and special education), including those preparing to be elementary and nursery school teachers.

2. In the area of undergraduate professional preparation, the regulations placed a new emphasis on field work. Sophomore and junior field experiences were required as well as a full semester of full-time student teaching. In addition,

emphasis was placed on the supervision and evaluation of field work. Written evaluations by both school and college supervisors were to be part of students' records. Student teachers were to be given biweekly supervision.

3. In the area of standards, students had to demonstrate proficiency in basic skills by the end of the sophomore year, had to achieve and maintain a 2.5 grade point average, and had to pass comprehensive tests at the end of the senior year in the academic major and in the social/behavioral sciences. These standards were intended to increase the amount of arts and sciences and decrease the amount of professional education in the undergraduate curriculum. They were controversial and were resisted by many teacher educators.

In 1982, the new governor of New Jersey, Thomas H. Kean, who campaigned heavily with the promise of reform in education and has since made education one of his highest, if not the highest, of his priorities, asked for and received the resignation of the commissioner of education. The governor appointed a new commissioner, Saul Cooperman, who viewed teacher education as one of his highest priorities.

In July 1982, at the new commissioner's first State Board of Education meeting, he recommended the adoption of teacher education regulations (New Jersey State Board of Education, 1982) almost identical to those adopted by the Board of Higher Education six months earlier. The Board of Education approved the recommendation, thus extending the regulations to all collegiate institutions, public and private. The major difference between the two sets of regulations was a new requirement for a minimum of 30 credits in professional education.

From July 1982 to September 1983, colleges began the process of revising their teacher education programs to conform to the new state standards. In September 1983, the new state standards became effective for entering freshmen.

Also in September 1983, the "alternate route" (New Jersey Department of Education) was announced (the alternate route is described in more detail in the paper by Nicholas Michelli). The announcement about the alternate route also proposed changes to certification standards and additional changes to collegiate program standards. The latter went largely unnoticed, or were not commented on, at least, by the higher education community, because the alternate-route proposal captured all of the attention.

In fall 1983, a review of collegiate program revision was begun. As a result, the chancellor of higher education and the commissioner of education decided to waive the regulations for 18 credits of behavioral/social sciences and

30 credits of professional education, if an institution requested such a waiver, in order to require more credits in the arts and sciences. The waiver provision was established in response to the requests of a number of colleges for exemption from those requirements.

In spring 1984, the second step in the review of collegiate program revisions was conducted. Of the more than 300 separate teacher education programs in the state, approximately 60% were found to be out of compliance with the new regulations. Only 5 of 26 institutions had all programs in compliance. Most institutions failed to demonstrate a single program in compliance.

In early fall 1984, the alternate route was passed by the State Board of Education as an amendment to the New Jersey Administrative Code. In addition, the standards for collegiate programs were revised. The revisions provided a new list of topics in professional preparation, based on a report written by a national committee chaired by Ernest Boyer (1984) and convened by the commissioner of education. In addition, a maximum of 30 credits was established for the professional preparation component of the undergraduate curriculum, and that component was restricted to include only topics and field experiences included in the regulations.

Widespread demoralization has occurred in the teacher education community as a result of this series of events.

The Department of Higher Education, though supporting the revisions to the regulations and the alternate route, took the position that excellence in teacher education cannot be achieved through regulating minimum standards, no matter how high, nor in making colleges compete with the alternate route. In October 1984, the State Board of Higher Education endorsed, for the governor's consideration, a set of programs to improve collegiate teacher education. The Board of Higher Education recommended funding the programs with $2 million of state funds. The programs were developed with substantial assistance from the teacher education community, which sees them not only as worthwhile in their own right but also as a positive activity to overcome demoralization. Through a competitive grants process, the programs are intended to stimulate the development of (1) new and strengthened master's programs, (2) new areas of cooperative activity between schools and colleges, and (3) activities to strengthen institutionally identified aspects of programs. In addition, there is a program to provide financial incentives at the undergraduate and graduate level to induce more academically talented students into teaching.

The policies pursued in New Jersey have been intended to improve the quality of the teaching force trained in New Jersey by increasing the liberal arts backgrounds of prospective teachers and decreasing the amount of preservice professional training. Those policies, combined with a massive decline in the number of students enrolling in programs, public criticism, and the inability of the teacher education community to influence state policymaking have created a unique situation that will have an impact on the future quality of teacher preparation in New Jersey.

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ACCEPTING THE NULL: STUDYING NEW JERSEY'S TWO-TAILED COIN

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In the past year, New Jersey has attracted some measure of national attention because of a proposal from the commissioner of education to offer an "alternate route" to certification that would not require any collegiate course work in the study of education. The purpose of this paper is to highlight the relationship between educational research and the policymaking process that led to the alternate route and to the new guidelines for teacher education in New Jersey.

I feel reasonably safe in saying that there has been some relationship between these two usually distinct activities. That is, state-level policy on teacher education in New Jersey has been informed by research, but only to a limited extent--a panel of nationally recognized educators were invited in to provide testimony and direction for the development of essential knowledge for beginning teachers (Boyer, 1984).

The alternate route to certification, which bypasses teacher education course work in *higher* education institutions, is founded on the assumptions that an in-depth knowledge of subject matter is the prime requisite for effective teaching and that a person with a liberal arts baccalaureate degree is a viable candidate for a teaching position. The newly adopted guidelines for teacher education programs in New Jersey (New Jersey Advisory Code, 1984 revisions) make the same assumption. They require that a preservice teacher must complete 60 credit hours of liberal arts and 30 hours in an academic sequence, replacing the old requirements of approximately 42 hours in liberal arts and no academic sequence required for teaching. The assumption that more liberal arts is better is clear in both new pathways to certification.

The remainder of this paper will address three questions, the answers to which may help clarify the current relationship between educational research and policy in teacher education in New Jersey and the prospects for a stronger future relationship. The first question is, is there a body of research literature that can be applied to the content and processes of teacher education programs? The answer is clearly yes. As indicated earlier in this paper, the current research on teaching literature, which has previously been the "property" of the teacher education community, has been identified by policy makers as important professional content for the preservice teacher education curriculum. It includes the literature on effective teaching and classroom processes. Unfortunately, the same content that should have been influencing curriculum revision within teacher education has become part of the new guidelines that stipulatively define the teacher education curriculum. In other words, the policy makers have become aware of the growing body of research literature on classroom processes, and teacher educators have become the recipients of new regulations that now incorporate some of this literature into the new guidelines and into the alternate route.

The second question relates to the research on teacher education compiled by the teacher education community: have teacher educators presented research evidence to policy makers regarding the effectiveness of the traditional approaches to teacher education? The answer to this question must be no. Teacher educators typically are not researchers, and they have not seen it as part of their mission. Hence, there are few studies that, taken together, clearly demonstrate that one approach or set of assumptions is superior to others. This problem is compounded by the lack of reliable instruments, by few hypotheses, and by few dependent variables. Little is known about the effects of professional requirements, liberal arts requirements, specific courses, or field experiences. Teacher education remains a practice without a study. Teacher educators in New Jersey were unprepared to address the questions of their critics with any evidence to defend standard practice. Policymakers, armed with a perceived mandate to improve the preparation of teachers, were challenged by no counter arguments or valid evidence sufficient enough and convincing enough to dissuade them from writing and adopting new regulations to guide teacher education.

This professional inactivity leads to the third question, should state departments of education dictate the content and processes of teacher education programs?

History supports the participation of state bureaucracies in education, especially in the K-12 curriculum. However, state intervention in teacher education is a new phenomenon. The question may no longer be whether states should intervene but how teacher educators can participate. Teacher educators need to become researchers; they need to identify the assumptions of the traditional pathway to certification and test them against expectations, other assumptions, and the demands of teaching. Teacher educators are not conversant about the relative effectiveness of their programs and the degree to which they are defensible. In New Jersey, teacher educators were not ready for new guidelines and alternate routes, and they knew little about how to critique such proposals, as well as defend what they had spent so many years doing.

Future research and development in teacher education must encourage data collection with valid instruments. Otherwise, studies about the comparative effectiveness of one route to certification versus another are destined to fall victim to the null hypothesis that any pathway is as valuable as any other, be it traditional, alternate, or some variation of these. As we learned in New Jersey, policy makers are impatient about waiting for the one definitive study.

The New Jersey experience offers a clear lesson to teacher educators: inquire into practice, inquire into policy, inform practice, and inform policy. Research may not alter policy, but the intent of policy, as it manifests in practice, can be subjected to systematic inquiry in an effort to improve the preparation of teachers.

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THE ALTERNATE ROUTE

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As New Jersey colleges and universities were about to implement new standards of the Department of Education and the Department of Higher Education for teacher education programs (for some institutions, a dramatic departure from past practices), a series of new initiatives was undertaken by the Department of Education. These new initiatives included a proposal to raise the salaries of beginning teachers, a proposal for a pilot master teacher plan, and a proposal for an alternate route to certification.

The way in which the alternate route proposal was introduced was unusual and caused considerable concern among teacher educators. First, a series of news articles appeared in The Star Ledger in July and August 1983, heralding a new approach to teacher certification. Second, a series of briefings were held for education groups in New Jersey, including school administrators and representatives of boards of education but not teacher educators. Then, on September 6, 1983, Governor Kean announced the new initiatives in a speech entitled "Education in New Jersey: A Blueprint for Reform," presented before a joint session of the legislature. In his speech, the governor proposed a plan for an alternate route to certification that would allow those with a baccalaureate degree, evidence of having passed a test in their subject area, and a one-year internship to receive lifetime certification to teach, with no further requirements.

The details of the plan were presented the next day by the commissioner of education to the State Board of Education. Among the stated goals of the alternate route proposal were these:

1. To end the emergency and provisional certification routes through which individuals enter the profession with no professional training and no quality control.

2. To raise the quality of the pool of individuals entering teaching, quality being measured primarily by scores on the Scholastic Aptitude

Test (the assertion was made that education majors scored at or near the bottom of college majors on this measure).

3. To ease entry into the profession for uncertified individuals who have had professional experiences in the subject area, other relevant life experiences, or previous teaching experience in private schools or colleges.

The proposal provided that prior to the start of the school year, participating districts would provide a one-week orientation for provisional teachers to introduce them to the philosophy of the school, its basic organization, and fundamental teaching approaches. The orientation was to emphasize the professional knowledge aspect of training as it applies to the work of new teachers.

The concept that all formal professional knowledge could be transmitted by the public school district in one week succeeded in accomplishing what nothing in the past had--it united the teacher education community. What followed was an extraordinary year of political maneuvering, testimony before agencies of state government, accusations of "dirty tricks," and general confrontation.

The presentation of the alternative-route concept as a policy statement in a speech by the governor did not leave much room for response by teacher educators. Furthermore, since the proposed changes required only action by the Board of Education and not by the legislature, the avenues of response were limited. For the most part, response took the form of testimony presented to the State Board of Education by faculty and administrators from individual colleges. The testimony attempted to contrast the alternate route with the newly approved standards for teacher certification. The differences are clear. Although both require the completion of a baccalaureate degree the new standards require at least 30 hours of study in the area of certification, whereas the alternate route requires only 18. The new standards require approximately 60 hours in general education; the alternate route specifies none. Both require an examination in the subject area, but the new standards also require an examination in the understanding of professional work rooted in the social and behavioral sciences. The new standards require substantial study in the professional areas and extensive familiarity with schools through field experiences, but the alternate route requires only a five-day orientation.

In addition to contrasting the avenues to certification, testimony by the teacher education community refuted the assertion that teacher education students were the lowest group as measured by the SAT and that the alternate route would indeed enhance the quality of the pool of candidates. For example, in the testimony of Montclair State College (Michelli, Pines, & Becker, 1983) presented on November 16, 1983, we said,

> The SAT data that have been presented are inaccurate and misleading. What is reported are the SAT scores of high school students who say they intend to go to college for education. Intending to major in something is not the same thing as being admitted to and retained in a program. At Montclair State College no student majors in education. Our teacher education candidates in many subject area fields have SAT scores that exceed the scores of other majors in their departments, and they are, as a group, at the mean SAT level of the college, not in the lowest quartile. (p. 2)

Furthermore, we testified that in stating that they intended "education as a major," some students were probably stating a general purpose for college attendance rather than specifying teacher preparation.

Regarding the expectation that the alternate route would raise the quality of the pool of teacher candidates, we challenged the assumption that the required credits in professional preparation were preventing higher quality candidates from entering the field and suggested that the most critical factors were the starting salaries and status of teachers. Furthermore, we suggested that the alternate route might depress the quality of the pool by dissuading qualified students from entering teacher education programs. While the plan was supposed to be aimed at highly qualified, experienced professionals interested in a career change, we were concerned that the proposed revisions to the administrative code, would not prevent inexperienced students who should enroll in teacher education programs from viewing the alternate route as an option for them. This, we said, would be a tragedy. Many young people planning on a career in teaching might be misled in their knowledge of the most appropriate and most realistic route to that career, and we might lose some of our finest students. We proposed that eligibility be limited to those individuals whose life experience and maturity make them uniquely qualified for an alternate route.

During the year that followed, a coalition emerged that was opposed to the alternate route. The coalition included, among other groups, the New Jersey chapter of the American Association of Colleges for Teacher Education (NJACTE), the New Jersey National Education Association (NEA) affiliate, the New Jersey American Federation of Teachers (AFT) affiliate, and several legislators. By the end of the year, only the NJACTE and the AFT remained fully opposed to the alternate certification route. During this time, the NJACTE took an active role in the debate and provided funds for a conference that included generally negative commentary on the proposal from nationally recognized leaders such as Albert Shanker, J. Myron Atkin, and Robert Egbert.

Despite the opposition to the concept, the State Department of Education moved toward its adoption. One particularly interesting aspect of the process was the formation by the commissioner of education of a national Panel on the Preparation of Beginning Teachers, chaired by Ernest Boyer and charged with answering two questions: (1) what is essential for beginning teachers to know professionally? and (2) what teaching skills and abilities are most effective? The product, a 14 page, double-spaced document, was produced in several days (Boyer, 1984). This document was used to legitimize the alternate route plan, and elements of the report were incorporated in the regulations that govern all teacher education programs in New Jersey, whether college based or alternate route (New Jersey State Board of Education, 1984). Elements of the Boyer report that must be included in all teacher education programs include:

1. Curriculum: studies designed to foster an understanding of the curriculum taught and the assessment of learning
2. Student development and learning: studies designed to foster an understanding of students, their characteristics as individuals, and the ways in which they learn
3. The classroom and the school: studies designed to foster an understanding of the school as a social unit and classroom management.

According to the interpretation of officials in the Departments of Education and Higher Education, professional programs are not only required to include these elements but are also proscribed from incorporating any other content in the professional sequence. Early in the process, some representatives of New Jersey colleges sent materials to members of the Boyer panel, including copies of AACTE publications describing the key elements in teacher education programs. To my knowledge, there were no personal contacts with panel members prior to the meeting of the panel. On April 29, 1984 The Star Ledger, one of the few statewide newspapers in New Jersey, reported the following in an article by R. J. Braun carrying the headline "School Chief Claims Foes Resort to Dirty Tricks."

> Education Commissioner Saul Cooperman has lashed out against critics who, he said, mounted a campaign of sabotage against his efforts to reform teacher certification.
>
> In a long memorandum to the state Board of Education, Cooperman outlined what one of his chief aides called 'dirty tricks' designed to discredit him and his efforts to provide an alternative route to college-based teacher certification.

> The unusual memorandum described how teacher education faculty from New Jersey tried to influence the deliberations of a panel of national experts who had been asked to determine what new teachers needed to know in order to be effective...
>
> "Even before the national panel convened on January 9, several members were contacted by New Jersey collegiate teacher educators," Cooperman wrote. "Panelists stated that documents had been mailed to them and that they had been contacted by phone and urged not to participate in the study." (p. 1)

To my knowledge, the only meeting occurred at the invitation of the American Association of Colleges for Teacher Education at the San Antonio conference. It was attended by New Jersey teacher educators attending the conference and by Ernest Boyer to discuss the general proposals of the committee and teacher education in New Jersey. That meeting occurred after the panel had completed its work. Whether or not personal contacts occurred, and whether or not individuals were urged not to participate in the panel, it seems excessive to characterize the activities as "dirty tricks." It should be noted that throughout the year, the articles appearing in The Star Ledger consistently supported the alternate-route proposal and characterized efforts to oppose the concept as "self-serving."

The second and final opportunity for public testimony before the State Board of Education came in July 1984. By that time, it was clear that the alternate route proposal would be adopted. Over the course of the year, Montclair State College discussed possible joint responses with the Montclair, New Jersey Public Schools, the school district in which the college is located and, by New Jersey standards, a large district with some 5,000 students. The testimony we presented at the July hearing was presented jointly with the Montclair public schools. In that testimony, we argued that every one of the commissioner's stated goals--increasing rigor in the application of standards to the certification process, eliminating emergency certification and transcript evaluation, raising the quality of the pool of teacher applicants, and allowing highly qualified individuals from other fields to have access to the teaching field--could be better accomplished with a program that involved full college participation with public school districts. This college-school partnership would have built into it all of the screening and quality assurance measures required of college certified students, intensive training and experience before teaching, and continued support during the first years of teaching. We proposed a specific program for the implementation of an alternate route through a partnership between the college and the Montclair Public Schools. Initial selection of candidates for the program, and therefore for employment by the public school district, would include input from the college and the district. College standards for admission to teacher education would be maintained. In the summer before employment begins, field work in the Montclair Public Schools and an intensive program of course work would be offered. Joint supervision by the district and the college in the first year and course work during the first year and the following summer were to be included. Most courses in the program would be cotaught by regular college faculty and public school teachers eligible for appointment as adjuncts. A final recommendation for certification would be made jointly by the college and the school district.

While the alternate-route proposal has now been fully adopted by the State Board of Education, its final impact and format are yet unclear. The proposal provides verbal assurances that there will be the kind of partnership between school districts and colleges proposed in the Montclair testimony, but such partnerships are not mandated by code. The primary changes in the proposal from the time it was originally put forth until the time of its adoption are these:

1. The 5-day orientation has been extended to a minimum of 20 days and 200 hours.

2. The 18 credits required in the subject field has been extended to 30 credits.

3. Districts must seek college participation in developing and offering the required training program.

4. The Board of Examiners may reject candidates judged not to meet academic requirements comparable to those of New Jersey collegiate teacher education programs.

Throughout the extraordinary process of the last year, we have never been in opposition to the stated goals of the program. We have taken issue with much of the process by which the proposal was introduced and adopted, and this opposition is perhaps best summarized in testimony presented to the State Board of Education by faculty members from the Rutgers Graduate School of Education in November 1983:

> There are serious defects in the manner by which the proposal was developed and the means of review for the proposal. It is ironic, though sad, that a proposal which argues rhetorically for rigorous academic preparation of teachers and increased standards of talent should itself exemplify such inadequacies in intellectual development, logic and critical review. A large part of the blame for the production of a document so flawed in consideration of existing literature and in reasoning can be placed on the defective process under which the rationale and proposal came into existence. There was no opportunity provided for critical commentary by outside experts

> on draft documents; there was a level of secrecy which shrouded the document and the process; there was an unfortunate anti-intellectual climate fostered which disdained consultation, review, or criticism in the formative stages of the proposal; and there continues a similar climate in which all critics are perceived as monolithic and beneath consideration. The proposal was ceremoniously presented at a major news conference, and is more of a political than an educational statement, but the level of insensitivity demonstrated by the State Department of Education in refusing to provide information to interested and knowledgeable parties in advance is neither educationally nor politically sound. The proposal might, in fact, obtain quick passage because of media coverage or previous commitments made, but this procedure cannot produce good public policy. The failure to open the preliminary concept to expert and public review, the prejudicial labeling of critics in advance of knowing their criticisms, and the unresponsiveness of the State Department of Education to substantial criticism suggest an authoritarian mentality which does not countenance disagreement. These are scarely the marks of good education or appropriate public policy in a democracy. (p. 8)

There will certainly be strains and bad feelings between the colleges and state officials for years to come. One possible positive outcome of the policy is to force colleges to work more closely with public school districts. In our case, the development of a closer relationship with the Montclair Public Schools was long overdue. Since our discussions have begun, we have plans to collectively develop two laboratory schools, one at the middle-school level and one at the pre-school level; to introduce a parent-training program at the pre-school level; to introduce our secondary-level thinking-skills project (Project THISTLE); to possibly extend our elementary-level thinking-skills project (Philosophy for Children); to provide college-level courses for high school students in the district; and to provide inservice education for both teachers and administrators in the district.

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LINKING PROFESSIONAL DEVELOPMENT TO INSTRUCTIONAL PROGRAMS: OREGON'S APPROACH TO SCHOOL IMPROVEMENT

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The concept of education as a "loosely coupled system" is well known. Teachers in one grade level know only generally what their colleagues are teaching at another grade level or at the same grade level in another school. Curriculum guides, textbooks, and district-administered tests often have limited overlap. Elementary and secondary schools within a district tend to operate as separate institutions; little communication or program continuity occurs between them. Departments in a high school tend to operate independently; responsibility is left largely to students to draw connections between and across subject areas. This same pattern repeats itself in the connection between high schools and postsecondary institutions, within postsecondary institutions, and between educational institutions and life outside the school. Upon close analysis the pattern is also found in the gap between life in the schools and the content and characteristics of teacher preparation programs.

Oregon has taken the view that education need not and should not be structured in this manner. Citizens, policymakers, and educators in the state have adopted the position that a "modest coupling" of all aspects of the educational system is desirable, and a "tight coupling" of some aspects is needed if excellence is to be achieved. At issue, of course, is what is meant operationally by modest and tight coupling, what aspects of the educational system should be tightly coupled, how agreement about these matters is to be accomplished, and how agreements that are reached are to be implemented.

This paper outlines the events leading to resolution of these issues in our state, with particular attention given to the initial preparation and continued professional development of school personnel. The state's intent to upgrade the selection and preparation of school personnel is tied closely to the goal-based approach to schooling that Oregon has pioneered and to mobilization of a professionwide support system for school improvement. Figure 1 provides an overview of the connection between schooling and the preparation of school personnel being established in Oregon.

Two other features of Oregon's approach to school improvement are unusual in this time of legislated change in education. One of these is the collaboration of citizens and educators in bringing about educational change. The other is the role that research and evaluation have played in guiding change thus far and the role they are expected to play in the future.

Milestones in Oregon's School Improvement

Schooling

1. The adoption in the late 1970s of a goal-based model of schooling (Elementary-Secondary Guide for Oregon Schools: Part I. Minimum Standards, 1975).
2. The translation of the model in 1980 into a set of standards that both elementary and secondary schools in Oregon are obliged to meet if they are to receive state funding (Standards for Elementary and Secondary Schools in Oregon, 1980; Schalock & Egge, 1979a; Fielding, Schalock, & Talbert, 1979).
3. The refinement, extension, and reaffirmation in 1984 of the goal-based model of schooling previously adopted (see Figure 1 for a description of selected features of the model, and Oregon's Action Plan for Excellence in Education, 1984).
4. The confirmation in 1984 of a professionwide support system for school improvement that a) takes account of evidence on the effectiveness of instructional programs in the schools, b) centers on the role of staff development in school improvement efforts, c) pools the resources of regions within the state to assist and support local districts in improving instructional programs, and d) establishes technical assistance centers within the state to assist regional support clusters in helping local districts improve their schools (Oregon's Action Plan for Excellence in Education, 1984; Talbert & Smoyer, 1984).

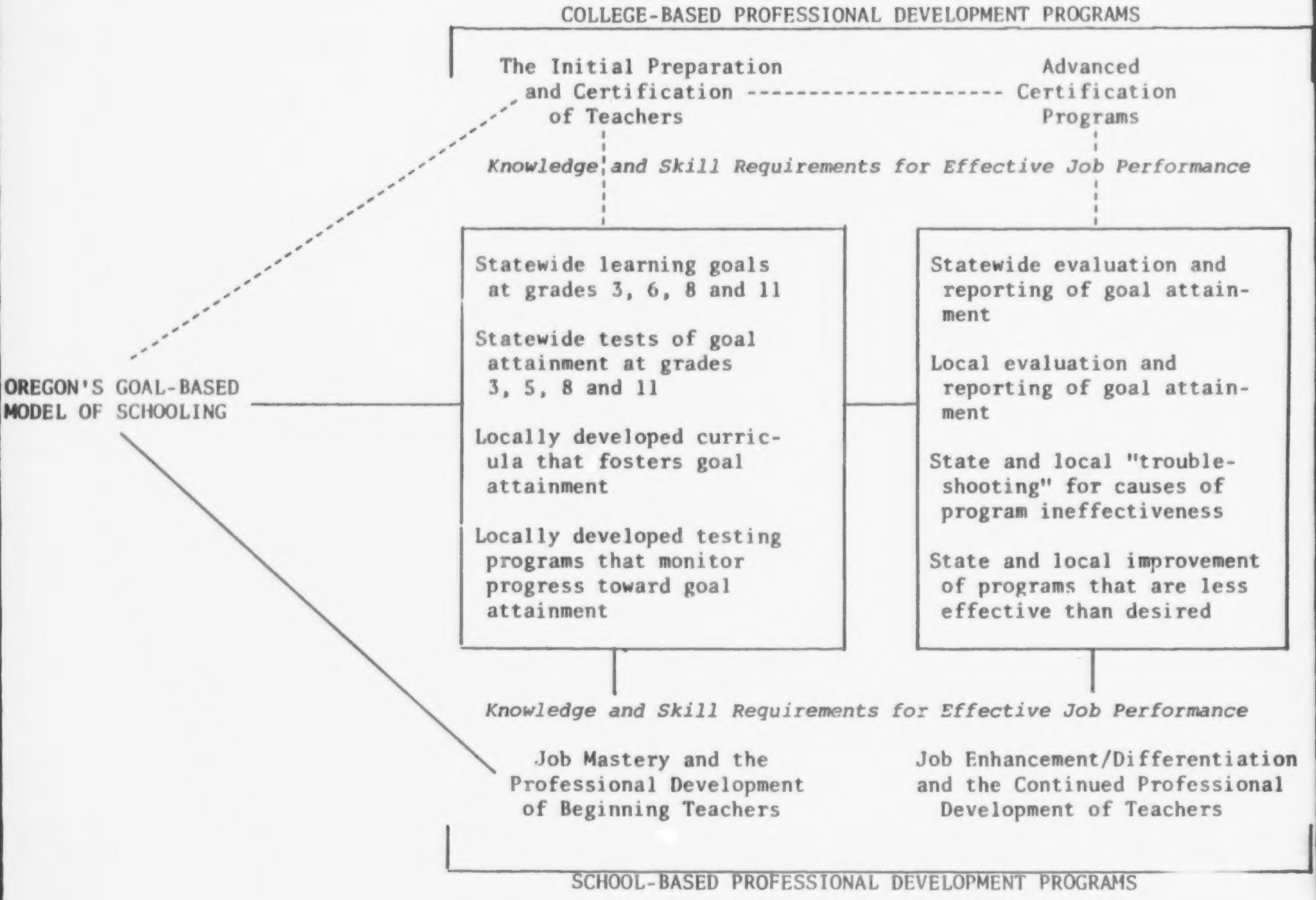
COLLEGE-BASED PROFESSIONAL DEVELOPMENT PROGRAMS
The Initial Preparation and Certification of Teachers
Advanced Certification Programs
Knowledge and Skill Requirements for Effective Job Performance
Statewide learning goals at grades 3, 6, 8 and 11
Statewide tests of goal attainment at grades 3, 5, 8 and 11
Locally developed curricula that fosters goal attainment
Locally developed testing programs that monitor progress toward goal attainment
Statewide evaluation and reporting of goal attainment
Local evaluation and reporting of goal attainment
State and local "trouble-shooting" for causes of program ineffectiveness
State and local improvement of programs that are less effective than desired
OREGON'S GOAL-BASED MODEL OF SCHOOLING
Knowledge and Skill Requirements for Effective Job Performance
Job Mastery and the Professional Development of Beginning Teachers
Job Enhancement/Differentiation and the Continued Professional Development of Teachers
SCHOOL-BASED PROFESSIONAL DEVELOPMENT PROGRAMS

Figure 1

The Connection Between Schooling and the Preparation of School Personnel Desired in Oregon

5. The translation in a three-county area of the above standards and support system into operational programs in the schools, and the collection of preliminary data on the costs and benefits that accompany this approach to school improvement in grades one through eight (Schalock, 1983).

Initial Preparation of Teachers

1. Statewide involvement during the early 1960s in a project funded by the Ford Foundation (Schalock & Hale, 1968) to expand the amount of field experience in teacher preparation programs and improve the quality of these experiences through improved supervision.
2. Statewide involvement during the late 1960s and early 1970s in the federally-funded Elementary Models Program, a competency-based movement in teacher education (Douglas, 1967). Oregon's approach focused largely on performance in field settings and thus further enhanced the linkage already established through the Ford Foundation project between teacher preparation institutions and the schools (Schalock & Hale, 1968; Schalock, Kersh, & Horyna, 1976; Schalock, 1974; Schalock, Kersh, & Garrison, 1976).
3. As a result of the Ford Foundation project and the Elementary Models Program, the standards for teacher preparation programs in Oregon carry a strong commitment to a competency-based and field-centered approach to teacher preparation (Standards for the Approval of Teacher Education Programs, 1973; Standards for the Approval of Administrator, Personnel Service Specialist, and Advanced Teacher Education Programs, 1976; Standards for Program Approval, 1982).
4. The establishment in 1973 of the first professional licensure board in the nation for the control of teacher education and certification. Known as the Oregon Teacher Standards and Practices Commission, the commission consists of eight classroom teachers; four public school administrators; two representatives from higher education; two representatives from the public at large; and one representative from the Oregon School Board's Association (Harris, 1980).
5. The adoption in 1973 and reaffirmation in 1976 and 1982 of strict and far-reaching standards for the evaluation of teacher preparation programs, including the follow-up of graduates (Standards for the Approval of Teacher Education Programs, 1973; Standards for the Approval of Administrator, Personnel Service Specialist, and Advanced Teacher Education Programs, 1976;

Standards for Program Approval, 1982). Following the adoption of these standards, all public and private teacher preparation institutions in the state worked cooperatively to develop effective program evaluation procedures (Schalock & Myton, 1979).

6. The development through an interinstitutional cooperative project, in the late 1970s of a set of standards and procedures for assessing the proficiency of prospective teachers in basic skill use. These standards and procedures were used by all publically supported institutions in Oregon between 1980 and 1984 for admission to teacher preparation programs. Beginning January 1, 1985, a passing score on an Oregon version of the California Basic Educational Skills Test will be used by the Teacher Standards and Practices Commission as a requirement for certification (Remple, Schalock, & The Interinstitutional Committee for Basic Skills Assessment, 1981).
7. A thorough review in 1981 and 1982 of the teacher preparation process in Oregon by a committee of the various boards and commissions responsible for the quality of education in Oregon (the Board of Education, the Board of Higher Education, the Teacher Standards and Practices Commission, and the Oregon Educational Coordinating Commission). The review reaffirmed the general quality of the teacher preparation process in Oregon but recommended that experimental programs be undertaken to further improve the process, especially fifth year or intern programs (Toward excellence in education, 1982; Harris, 1980). For a description of program planning at the University of Oregon in response to this recommendation, see Haisley, Gilberts, & Kehl, 1983.
8. The adoption in 1982 by the Teacher Standards and Practices Commission of a refined and more comprehensive set of standards for teacher preparation programs. The most dramatic and far-reaching change in the new standards is the requirement that all teacher preparation institutions in Oregon establish a consortium of local teachers, school administrators, students currently enrolled in a preparation program, and college faculty to review and approve program design, operation, and evaluation. The various groups comprising the Consortium are to be equally represented, and each group is to have equity in decision making. Teacher and administrator members are appointed through their professional organizations, and students are appointed through their student organization (Standards for Program Approval, 1982).

9. The adoption in 1984 of a quality assurance program by Oregon State University/Western Oregon State College of Education that issues a "warranty" for its graduates and pledges to work with hiring districts, upon request, to assist first-year teachers who are having difficulty. Assistance includes tuition-free course work at the college or university if that is judged by the graduate, beginning teacher and the principal to be needed and appropriate (Barr, n.d.)
10. The initiation of a professionwide project in 1984 under the sponsorship of the Joint Board's Committee on Teacher Education to develop a "generic" supervision-evaluation system for beginning teachers. The aim of the project is to develop a supervisory-assessment system that is consistent in its focus across the preservice and beginning years of teaching but also expands progressively in the comprehensiveness of its coverage and in the quality of performance expected (Schalock, 1984).

Professional Development of Teachers

1. The initiation of a project in 1975 by the deans and directors of teacher education in Oregon's publically supported institutions to examine the nature, effects, and costs of continued professional development (CPD) of school personnel (all professional development activities engaged in after receiving an initial teaching certificate). The project soon grew to a professionwide project involving all institutions, agencies, and professional associations having responsibility for the quality of education in Oregon. By the completion of the project, extensive data were available on current practices, procedures, effects, and costs of CPD in Oregon; related concepts were clarified; a language for talking about CPD was established; and recommendations made to the education community for school improvement (Schalock, 1977; and Schalock, 1978).
2. The establishment in 1978, as a direct outgrowth of the project described above, of the Oregon Council for the Continued Professional Development of School Personnel. The council consists of representatives from all institutions, agencies, and associations that took part in the initial study, several additional associations, and three classroom teachers.
3. The completion in 1980, under the sponsorship of the Oregon Council for CPD, of a federally funded project to design a professionwide support system for

the continued professional development of school personnel in Oregon (Schalock & Egge, 1979b).

4. The extension and clarification of the connections between preservice, induction, and continued professional development in the 1981-82 Joint Board's study of teacher preparation in Oregon (see item 7 under Preservice), and identification of the Oregon Council for CPD as the continuing advisory body to the Joint Board's Committee (Toward excellence in education, 1982).
5. The development between 1982 and 1984 of a school-based model for continued professional development that addresses the needs of individual teachers as they progress through stages in their teaching careers, and relates professional development to the needs of schools for program improvement (Talbert & Smoyer, 1984).
6. The testing in 1983 and 1984 through three pilot projects of the feasibility of implementing a support system and a comprehensive CPD program (items 3, 4, and 5 above).
7. As a result of the pilot projects and a parallel study by the Oregon Council for CPD of exemplary CPD programs in the schools, sharpening of the distinction between CPD programs focus on the individual development of teachers and programs that focus on the improvement of school programs (Talbert & Smoyer, 1984).
8. Integration of the current thinking of the Oregon Council for CPD about a support system and a CPD program with Oregon's Action Plan for Excellence in Education (1984), and inclusion in the Department of Education's proposed 1985-87 budget of funds for implementing the support system.
9. With the assistance of funds from the Andrew Mellon Foundation, submission of the proposed actions to a professionwide review in spring 1984. The review resulted in some refinement of the models that had been developed, and a reaffirmation of the sensibility and workability of what was being proposed (Talbert & Smoyer, 1984).

The Role of Research and Evaluation in Improving Education in Oregon

Throughout all of the work described above, close attention has been paid to the research on teacher effectiveness and school effectiveness and to the literature on preservice and inservice education. Close attention also has been paid to the literature on alternative futures and their implications for education, the nature of educational institutions, the nature of educational change, and networking as an avenue for change.

We believe the Oregon approach to school improvement reflects the implications of all these literatures reasonably well. More importantly, we believe that the approach to school improvement adopted in Oregon puts the state in an unusually strong position to engage in research and evaluation as a continuing guide to the school improvement process. All of the models that have been adopted for improvement are essentially data-based models, and these will generate a rich store of information as they are being implemented. In our view, this information can and should be used for research as well as program management and program refinement.

Some of the uses we anticipate for this information are outlined in the pages that follow. A discussion of goal-based programs in teacher education as contexts for research can be found in Schalock, 1979; Schalock, 1982; and Schalock, 1983b.

Schooling

1. Assessing individual student progress toward learning goals
    - To be used for student placement and instructional planning
    - Could be used for research on student learning and program effects
2. Assessing the effectiveness of instructional programs in accomplishing the learning goals desired in all students
    - To be used for troubleshooting and program improvement
    - Could be used for research on factors related to program effectiveness and productivity
3. Assessing the quality of schools as places to work and learn
    - To be used for troubleshooting and organizational improvement
    - Could be used for research on the relationships among program effects, school effects, and school productivity

Initial Preparation of Teachers

1. Common data systems and decision points leading to certification, for example, measures of basic skill proficiency and performance in "work samples" that increase systematically in scope and complexity
    - To be used for student placement and instructional planning

  - To be used for assurance of quality in program graduates
  - Could be used for research on teacher selection, placement, and performance
2. Common data systems for program evaluation and follow-up of graduates
  - To be used for troubleshooting and program improvement
  - Could be used for research on teacher selection, placement, and performance
3. Planned variation studies and experiments could be conducted using data available through items 1 and 2 above

Professional Development of Teachers

1. Common data systems and decision points for evaluating the performance of teachers in the schools
  - To be used for decisions about instructional improvement and staff development
  - To be used for decisions about retention, advancement, tenure, and plans of assistance
  - Could be used for research on the effectiveness of preservice selection and preparation programs
  - Could be used for research on teacher placement, performance, and professional growth
2. Common data systems for evaluating the effectiveness of instructional programs in the schools
  - To be used for decisions about instructional improvement and staff development
  - To be used for decisions about the effectiveness of a teacher's performance over time
  - Could be used for research on program effects and productivity over time.

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APPENDICES

APPENDIX A

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